

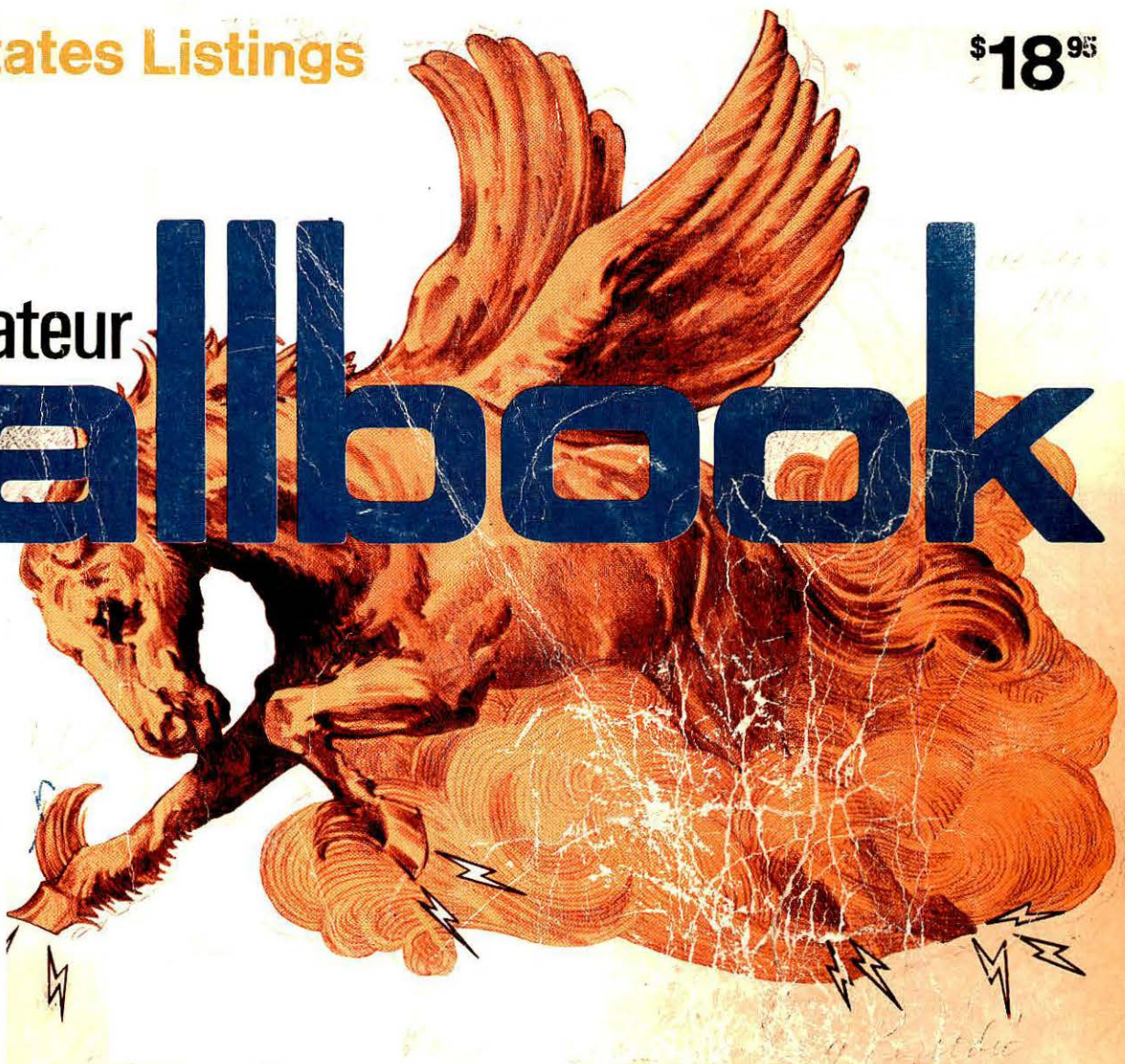
United States Listings

\$18⁹⁵

1982

radio amateur

callbook



The only publication listing licensed radio amateurs throughout the world, since 1920.

In this issue . . .

- 406,417 licensed Radio Amateurs
- 34,373 new licenses included, issued since the 1981 edition
- 83,753 changes in listings
- Then & Now—Call letter changes
- Silent Keys deleted from this issue
- QSL Managers
- Radio Amateur Prefixes of the world
- A.R.R.L. Countries List
- Zip Codes and License Class on all Listings
- International Postal Information
- Standard Time Charts
- Census of Amateur Radio Licenses of the World
- Census of Amateur Radio Licenses of the U.S.
- World Wide QSL Bureaus
- Plus many other features

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For Use Throughout 1982

3K Classic

**We think it's the
world's finest amateur linear amplifier...and
we think you'll agree with us.**

Ever since we made our first Amateur amplifier almost 20 years ago, our goal has been to make the finest, most rugged and reliable amplifier possible. Now with the 3K Classic we have accomplished this. It contains all of the famous Henry amplifier features plus the magnificent 8877 tube, rugged heavy duty power supply components and advanced antenna switch relay for semi break-in on CW. This is the amplifier of every Amateur's dreams.

The 3K Classic/X with heavy duty power supply and 10 meter operation is available for sale outside the USA where FCC type acceptance is not required.

The 2K Classic

The 2K Classic represents the culmination of years of experience in developing, manufacturing and improving the 2K series. It remains as always a "workhorse", engineered and built to last along at full legal power for days or weeks without rest. A look inside shows why! It is truly a "Classic" amateur amplifier. Heavy duty, top quality components along with its rugged construction assures you trouble free operation. It will put your signal on the air with greater strength and clarity than you ever dreamed possible. The 2K Classic operates on all Amateur bands, 80 through 15 meters (export models include 10 meters).

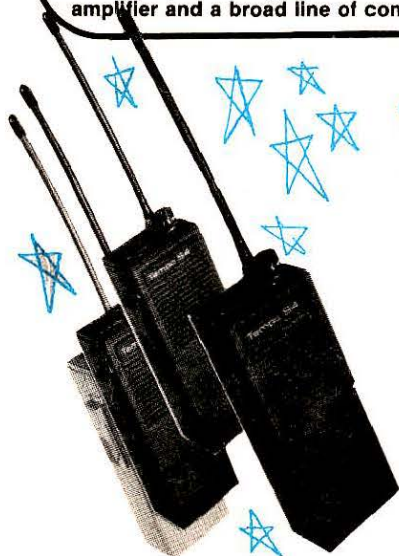
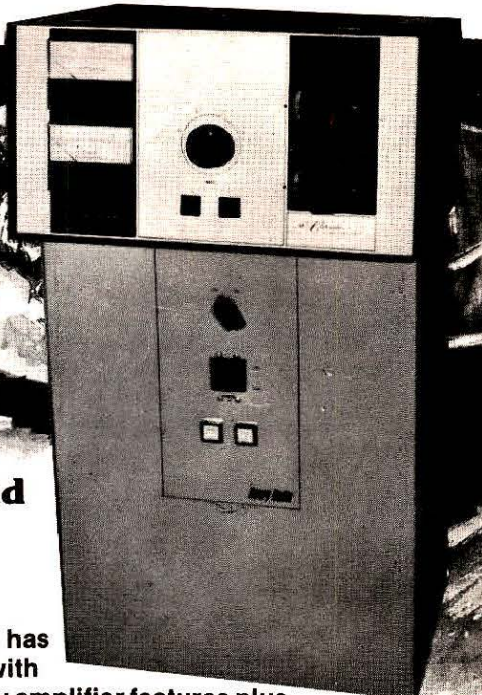
The 1KD-5

...Another fine member of the famous Henry Radio family of superior amplifiers. And we're still convinced that it's the world's finest linear in its class. The 1KD-5 was designed for the amateur who wants the quality and dependability of the 2KD-5 and 2K-4, who may prefer the smaller size, lighter weight and lower price and who will settle for a little less power. But make no mistake, the 1KD-5 is no slouch. Its 1200 watt PEP input (700 watt PEP nominal output) along with its superb operating characteristics will still punch out clean powerful signals...signals you'll be proud of. Compare its specifications, its features and its fine components and we're sure you will agree that the 1KD-5 is a superb value.

The 2KD-5

We have been suggesting that you look inside any amplifier before you buy it. We hope that you will. If you "lift the lid" on a 2KD-5 you will see only the highest quality, heavy duty components and careful workmanship...attributes that promise a long life of continuous operation in any mode at full legal power. The 2KD-5 is a 2000 watt PEP input (1200 watt PEP nominal output) RF linear amplifier, covering the 80, 40, 20, and 15 meter amateur bands. It operates with two Elmac 3-500Z glass envelope triodes and a Pi-L plate circuit with a rotary silver plated tank coil.

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radio amateur

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RADIO AMATEURS OF THE U.S.A.

VOLUME 60
NUMBER 1

A, K, N, & W CALLS

WINTER 1981-82

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FIRST CALL AREA	1	SEVENTH CALL AREA	722
Includes the States of Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont.		Includes the States of Alaska, Arizona, Idaho, Montana, Nevada, Oregon, Utah, Washington, and Wyoming.	
SECOND CALL AREA	73	EIGHTH CALL AREA	817
Includes Guam, U.S. Virgin Islands, and the States of New Jersey and New York.		Includes American Samoa and the States of Michigan, Ohio, and West Virginia.	
THIRD CALL AREA	189	NINTH CALL AREA	928
Includes the States of Delaware, Maryland, Pennsylvania, and the District of Columbia.		Includes the States of Illinois, Indiana, and Wisconsin.	
FOURTH CALL AREA	264	TENTH CALL AREA	1027
Includes the States of Alabama, Florida, Georgia, Kentucky, North and South Carolina, Tennessee and Virginia. Also includes Puerto Rico.		Includes the States of Colorado, Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, and South Dakota.	
FIFTH CALL AREA	453		
Includes the States of Arkansas, Louisiana, Mississippi, New Mexico, Oklahoma, and Texas.			
SIXTH CALL AREA	564		
Includes the states of California & Hawaii.			

The calls of U.S. amateurs in Antarctica, Guantanamo Bay, Japan, and the U.S. Possessions are listed in the directory section in the appropriate call area.

RADIO AMATEUR CALLBOOK is published every December 1st followed by quarterly issues of new information on the first of March, June, and September.

FOR SHIPMENT TO U.S. ADDRESSES, the subscription price starting with the 1982 edition and including the Spring, Summer, and Fall supplements is \$34.00. The single copy price, 1982 edition only, is \$18.95 plus a \$3.05 shipping charge.

FOR SHIPMENT TO FOREIGN ADDRESSES, the subscription price starting with the 1982 edition and including the Spring, Summer, and Fall supplements is \$35.50. The single copy price, 1982 edition only, is \$18.95 plus a \$4.55 shipping charge. All payments must be in U.S. funds.

Herbert J. Nelson, Publisher
Herbert J. Nelson, Jr., President
Virginia M. Tworek, Editor

PRINTED IN U.S.A.

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Any errors should be immediately called to our attention.

Library of Congress Catalog Card Number: 65-30177



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A year-round staff, through the use of electronic data processing equipment, evaluates and compiles the directory information received daily from all over the world. Extensive library and historical records are maintained to provide the most complete and accurate Callbook possible. The Callbook had its beginning in 1920 when there were very few radio amateurs. Today, Callbooks and Callbook products are in use in every country of the world.

TABLE OF ALLOCATION OF INTERNATIONAL CALL SIGN SERIES

As Issued by the International Telecommunications Union

AAA-ALZ	United States of America	TIA-TIZ	Costa Rica	6AA-6BZ	Egypt
AMA-AOZ	Spain	TJA-TJZ	Cameroon	6CA-6CZ	Syria
APA-ASZ	Pakistan	TKA-TKZ	France	6DA-6JZ	Mexico
ATA-AWZ	India	TLA-TLZ	Central African Republic	6KA-6NZ	Korea
AXA-AXZ	Australia	TMA-TMZ	France	6OA-6OZ	Somalia
AYA-AZZ	Argentina	TNA-TNZ	Congo	6PA-6SZ	Pakistan
BAA-BZZ	China	TOA-TOZ	France	6TA-6UZ	Sudan
CAA-CEZ	Chile	TRA-TRZ	Gabon	6VA-6WZ	Senegal
CFA-CKZ	Canada	TSA-TSZ	Tunisia	6XA-6XZ	Madagascar
CLA-CMZ	Cuba	TTA-TTZ	Chad	6YA-6YZ	Jamaica
CNA-CNZ	Morocco	TUA-TUZ	Ivory Coast	6ZA-6ZZ	Liberia
COA-COZ	Cuba	TVA-TXZ	France	7AA-7IZ	Indonesia
CPA-CPZ	Bolivia	TYA-TYZ	Benin	7JA-7NZ	Japan
CQA-CUZ	Portugal	TZA-TZZ	Mali	7OA-7OZ	South Yemen
CVA-CXZ	Uruguay	UAA-UQZ	Union of Soviet Socialist Rep.	7PA-7PZ	Lesotho
CYA-CZZ	Canada	URA-UTZ	Ukrainian Soviet Socialist Rep.	7QA-7QZ	Malawi
DAA-DRZ	West Germany	UUA-UZZ	Union of Soviet Socialist Rep.	7RA-7RZ	Algeria
DSA-DTZ	South Korea	VAA-VGZ	Canada	7SA-7SZ	Sweden
DUA-DZZ	Philippines	VHA-VNZ	Australia	7TA-7YZ	Algeria
EAA-EHZ	Spain	VOA-VOZ	Canada	7ZA-7ZZ	Saudi Arabia
EIA-EJZ	Ireland	VPA-VSZ	Great Britain & No. Ireland	8AA-8IZ	Indonesia
EKA-EKZ	Union of Soviet Socialist Rep.	VTa-VWZ	India	8JA-8NZ	Japan
ELA-ELZ	Liberia	VXA-VYZ	Canada	8OA-8OZ	Botswana
EMA-EOZ	Union of Soviet Socialist Rep.	VZA-VZZ	Australia	8PA-8PZ	Barbados
EPA-EQZ	Iran	WAA-WZZ	United States of America	8QA-8QZ	Maldives Is.
ERA-ERZ	Union of Soviet Socialist Rep.	XAA-XIZ	Mexico	8RA-8RZ	Guyana
ETA-ETZ	Ethiopia	XJA-XOZ	Canada	8SA-8SZ	Sweden
EUA-EWZ	Byelorussian SSR	XPA-XPZ	Denmark	8TA-8YZ	India
EXA-EZZ	Union of Soviet Socialist Rep.	XQA-XRZ	Chile	8ZA-8ZZ	Saudi Arabia
FAA-FZZ	France	XSA-XSZ	China	9AA-9AZ	San Marino
GAA-GZZ	Great Britain & No. Ireland	XTA-XTZ	Voltaic Republic	9BA-9DZ	Iran
HAA-HAZ	Hungary	XUA-XUZ	Cambodia	9EA-9FZ	Ethiopia
HBA-HBZ	Switzerland	XVA-XVZ	Vietnam	9GA-9GZ	Ghana
HCA-HDZ	Ecuador	XWA-XWZ	Laos	9HA-9HZ	Malta
HEA-HEZ	Switzerland	XXA-XXZ	Portugal	9IA-9JZ	Zambia
HFA-HFZ	Poland	XYA-XZZ	Burma	9KA-9KZ	Kuwait
HGA-HGZ	Hungary	YAA-YAZ	Afghanistan	9LA-9LZ	Sierra Leone
HHA-HHZ	Haiti	YBA-YHZ	Indonesia	9MA-9MZ	Malaysia
HIA-HIZ	Dominican Republic	YIA-YIZ	Iraq	9NA-9NZ	Nepal
HJA-HKZ	Colombia	YJA-YJZ	Vanuatu	9OA-9TZ	Zaire
HLA-HLZ	South Korea	YKA-YKZ	Syria	9UA-9UZ	Burundi
HMA-HMZ	North Korea	YLA-YLZ	Union of Soviet Socialist Rep.	9VA-9VZ	Singapore
HNA-HNZ	Iraq	YMA-YMZ	Turkey	9WA-9WZ	Malaysia
HOA-HPZ	Panama	YNA-YNZ	Nicaragua	9XA-9XZ	Rwanda
HQA-HRZ	Honduras	YOA-YRZ	Romania	9YA-9ZZ	Trinidad and Tobago
HSA-HSZ	Thailand	YSA-YSZ	El Salvador	A2A-A2Z	Botswana
HTA-HTZ	Nicaragua	YTA-YUZ	Yugoslavia	A3A-A3Z	Tonga
HUA-HUZ	El Salvador	YVA-YYZ	Venezuela	A4A-A4Z	Oman
HVA-HVZ	Vatican City State	YZA-YZZ	Yugoslavia	A5A-A5Z	Bhutan
HWA-HYZ	France	ZAA-ZAZ	Albania	A6A-A6Z	United Arab Emirates
HZA-HZZ	Saudi Arabia	ZBA-ZJZ	Great Britain & No. Ireland	A7A-A7Z	Qatar
IAA-IZZ	Italy	ZKA-ZMZ	New Zealand	A8A-A8Z	Liberia
JAA-JSZ	Japan	ZNA-ZOZ	Great Britain & No. Ireland	A9A-A9Z	Bahrain
JTA-JVZ	Mongolia	ZPA-ZPZ	Paraguay	C2A-C2Z	Nauru
JWA-JXZ	Norway	ZQA-ZOZ	Great Britain & No. Ireland	C3A-C3Z	Andorra
JYA-JYZ	Jordan	ZRA-ZUZ	South Africa-Namibia	C4A-C4Z	Cyprus
JZA-JZZ	Indonesia	ZVA-ZZZ	Brazil	C5A-C5Z	The Gambia
KAA-KZZ	United States of America	2AA-2ZZ	Great Britain & No. Ireland	C6A-C6Z	Bahamas
LAA-LNZ	Norway	3AA-3AZ	Monaco	C7A-C7Z	World Meteorological Organization
LOA-LWZ	Argentina	3BA-3BZ	Mauritius	C8A-C9Z	Mozambique
LXA-LXZ	Luxembourg	3CA-3CZ	Equatorial Guinea	D2A-D3Z	Angola
LYA-LYZ	Union of Soviet Socialist Rep.	3DA-3DM	Swaziland	D4A-D4Z	Cape Verde
LZA-LZZ	Bulgaria	3DN-3DZ	Fiji	D5A-D5Z	Liberia
MAA-MZZ	Great Britain & No. Ireland	3EA-3FZ	Panama	D6A-D6Z	Comoros
NAA-NZZ	United States of America	3GA-3GZ	Chile	D7A-D9Z	South Korea
OAA-OCZ	Peru	3HA-3UZ	China	H2A-H2Z	Cyprus
ODA-ODZ	Lebanon	3VA-3VZ	Tunisia	H3A-H3Z	Panama
OEA-OEZ	Austria	3WA-3WZ	Vietnam	H4A-H4Z	Solomon Is.
OFA-OJZ	Finland	3XA-3XZ	Guinea	H5A-H5Z	Bophuthatswana
OKA-OMZ	Czechoslovakia	3YA-3YZ	Norway	H6A-H7Z	Nicaragua
ONA-OTZ	Belgium	3ZA-3ZZ	Poland	H8A-H9Z	Panama
OUA-OZZ	Denmark	4AA-4CZ	Mexico	J2A-J2Z	Djibouti
PAA-PIZ	Netherlands	4DA-4IZ	Philippines	J3A-J3Z	Grenada
PJA-PJZ	Netherlands Antilles	4JA-4LZ	Union of Soviet Socialist Rep.	J4A-J4Z	Greece
PKA-POZ	Indonesia	4MA-4MZ	Venezuela	J5A-J5Z	Guinea Bissau
PPA-PYZ	Brazil	4NA-4OZ	Yugoslavia	J6A-J6Z	St. Lucia
PZA-PZZ	Surinam	4PA-4SZ	Sri Lanka	J7A-J7Z	Dominica
QAA-QZZ	Q Signals	4TA-4TZ	Peru	J8A-J8Z	St. Vincent
RAA-RZZ	Union of Soviet Socialist Rep.	4UA-4UZ	United Nations	L2A-L9Z	Argentina
SAA-SMZ	Sweden	4VA-4VZ	Haiti	P2A-P2Z	Papua New Guinea
SNA-SRZ	Poland	4WA-4WZ	North Yemen	P3A-P3Z	Cyprus
SSA-SSM	Egypt	4XA-4XZ	Israel	P4A-P4Z	Netherlands Antilles
SSN-STZ	Sudan	4YA-4YZ	Intl. Civil Aviation Org.	P5A-P9Z	North Korea
SUA-SUZ	Egypt	5AA-5AZ	Libya	S2A-S3Z	Bangladesh
SVA-SZZ	Greece	5BA-5BZ	Cyprus	S6A-S6Z	Singapore
TAA-TCZ	Turkey	5CA-5GZ	Morocco	S7A-S7Z	Seychelles
TDA-TDZ	Guatemala	5HA-5IZ	Tanzania	S8A-S8Z	Transkei
TEA-TEZ	Costa Rica	5JA-5KZ	Colombia	S9A-S9Z	Sao Tome & Principe
TFA-TFZ	Iceland	5LA-5MZ	Liberia	T2A-T2Z	Tuvalu
TGA-TGZ	Guatemala	5NA-5OZ	Nigeria	T3A-T3Z	Kiribati
THA-THZ	France	5PA-5QZ	Denmark	T4A-T4Z	Cuba
		5RA-5SZ	Madagascar	T5A-T5Z	Somalia
		5TA-5TZ	Mauritania	T6A-T6Z	Afghanistan
		5UA-5UZ	Niger	Y2A-Y9Z	East Germany
		5VA-5VZ	Togo		
		5WA-5WZ	Western Samoa		
		5XA-5XZ	Uganda		
		5YA-5ZZ	Kenya		

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A	United States of America	K	United States of America	VP9	Bermuda Is.
AP	Pakistan	KA	U.S. Personnel in Japan	VQ9	Chagos
A2	Botswana	KB6,KH1	Baker & Howland Is.	VR6	Pitcairn Is.
A3	Tonga	KC4	U.S. Antarctica	V55	Brunei
A4	Sultanate of Oman	KC4,KP1	Navassa Is.	V56	Hong Kong
A5	Bhutan	KC6	Caroline Is.	VU	India
A6	United Arab Emirates	KG4	Guantanamo Bay	VU7	Andaman & Nicobar Is.
A7	Qatar	KG6	Mariana Is.	VU7	Laccadive Is.
A9	Bahrain	KH6	Hawaii	VY1	Canadian Yukon Territory
B	China	KH7	Kure Is.		
BV	Taiwan	KJ6,KH3	Johnston Is.	W	United States of America
CE	Chile	KL7	Alaska	XE,XF	Mexico
CE9AA-AM	Chilean Antarctica, Tierra de O'Higgins, Palmer Peninsula, Graham Land	KM6,KH4	Midway Is.	XF4	Revilla Gigedo Is.
CE9AN-AZ	South Shetland Is.	KP4	Puerto Rico	XT	Voltaic Republic
CE9A	Easter Is.	KP6,KH5	Jarvis & Palmyra Is.	XU	Cambodia
CE9X	San Felix Is.	K56,KH8	American Samoa	XV	Vietnam
CE9Z	Juan Fernandez Is.	KV4,KP2	U.S. Virgin Is.	XW	Wake Is.
CM,CO	Cuba	KW6,KH9	Wake Is.	XZ	Burma
CN	Morocco	KX6	Marshall Is.		
CP	Bolivia	LA-LJ	Norway	YA	Afghanistan
CR9	Macao	LU	Argentina	YB,YC,YD	Indonesia
CT	Portugal	LX	Argentinian Antarctica	YI	Iraq
CT2	Azores Is.	LZ	Luxembourg	YJ	Vanuatu
CT3	Madeira Is.	M1	Bulgaria	YK	Syria
CX	Uruguay	N	San Marino	YN	Nicaragua
C2	Nauru	OA	United States of America	YO	Romania
C3	Andorra	OD	Peru	YS	El Salvador
C5	The Gambia	OE	Lebanon	YU	Yugoslavia
C6	Bahama Is.	OH	Finland	YV	Venezuela
C8,C9	Mozambique	OH0	Aland Is.	YV9	Aves Is.
DA-DL	West Germany	OK,OL	Market Reef	Y2-Y9	East Germany
DU	Philippines	ON	Czechoslovakia		
D2	Angola	OX	Belgium	ZA	Albania
D4	Cape Verde	OY	Greenland	ZB2	Gibraltar
D6	Comoros	OZ	Faeroes Is.	ZC	Cyprus (Br. Forces)
EA	Spain	PA-PI	Denmark	ZD7	Ascension Is.
EA6	Balearic Is.	PJ	Netherlands	ZD8	Tristan da Cunha & Gough Is.
EA8	Canary Is.	PP-PY	Netherlands Antilles	ZE	Zimbabwe
EA9	Ceuta & Melilla	PV9	Brazil	ZF	Cayman Is.
EI	Ireland	PV9	Fernando de Noronha Is.	ZK1	Cook & Manihiki Is.
EJ	Armenia	PV9	St. Peter & St. Paul Rocks	ZK2	Niue Is.
EL	Liberia	PV9	Trinidad & Martin Vaz Is.	ZL	New Zealand & Auckland, Campbell, Chatham, Kermadec Is.
EP	Iran	PZ	Surinam	ZL5	New Zealand Antarctic
ET	Ethiopia	P2	Papua New Guinea	ZM7	Tokelau Is.
F	France	SJ-SM	Sweden	ZR,ZS	Paraguay
FBW	Crozet Is.	SP	Poland	ZS1	Republic of South Africa
FBX	Kerguelen Is.	ST	Sudan	ZS2	South African Antarctica
FBY	French Antarctica	SU	Egypt	ZR3,ZS3	Prince Edward & Marion Is.
FBZ	Amsterdam & St. Paul Is.	SV	Crete, Greece		Namibia
FC	Corsica	SV5	Dodecanese Is.	3A	Monaco
FG	Guadeloupe	S2,S3	Bangladesh	3B6	Agalega Is.
FH	Mayotte	S79	Seychelles Is.	3B7	St. Brandon Is.
FK	New Caledonia	S8	Transeke	3B8	Mauritius Is.
FM	Martinique	S9	Sao Tome & Principe	3B9	Rodriguez Is.
FO	French Polynesia, Clipperton Is.	TA-TC	Turkey	3C	Equatorial Guinea
FR	St. Pierre & Miquelon Is.	TF	Iceland	3D2	Fiji Is.
FP	Glorioso, Juan de Nova, Reunion, Tromelin Is.	TG	Guatemala	3D6	Swaziland
FS	St. Martin Is.	TI	Costa Rica	3V	Tunisia
FW	Wallis & Futuna Is.	TI9	Cocos Is.	3X	Guinea
FY	French Guiana	TJ	Cameroon	3Y	Bouvet Is.
G	England	TL	Central African Republic	3Y	Norwegian Antarctica
GD	Isle of Man	TN	Congo	4K1	Russian Antarctica
GI	Northern Ireland	TR	Gabon	4S	Sri Lanka
GJ	Jersey	TT	Chad	4U	United Nations
GM	Scotland	TU	Ivory Coast	4W	North Yemen
GU	Bailiwick of Guernsey	TY	Benin	4X,4Z	Israel
GW	Wales	TZ	Malawi		
HA	Hungary	T2	Tuvalu	5A	Libya
HB	Switzerland	T3	Kiribati	5B	Cyprus
HB0	Liechtenstein	UA1,2,3,4,6	European U.S.S.R.	5H1	Zanzibar (Tanzania)
HC	Ecuador	UA9,9	Asiatic U.S.S.R.	5H3	Tanzania
HC8	Galapagos Is.	UA1	Franz Josef Land	5L	Liberia
HG	Hungary	UA1	Russian Antarctica	5N	Nigeria
HH	Haiti	UA2	Katimigradsk	5R	Madagascar
HI	Dominican Republic	UB5	Ukrainian S.S.R.	5T	Mauritania
HK	Colombia	UC2	White Russian S.S.R.	5U	Niger
HK0	Bajo Nuevo, Malpelo, San Andres & Providencia Is.	UD6	Azerbaijani S.S.R.	5V	Togo
HK9	Serrana Bank & Roncador Cay	UF6	Georgian S.S.R.	5W	Western Samoa
HL,HM	Korea	UG6	Armenian S.S.R.	5X	Uganda
HP	Panama	UH8	Turkmen S.S.R.	5Z	Kenya
HR	Honduras	UI8	Uzbek S.S.R.	60	Somali Republic
HR0	Swan Is.	UJ8	Tadzhik S.S.R.	6W	Senegal
HS	Thailand	UL7	Kazakh S.S.R.	6Y	Jamaica
HV	Vatican City	UM8	Kirghiz S.S.R.	7J	Okino-Tori-Shima
HZ	Saudi Arabia	UN1	Karelo-Finnish S.S.R.	70	South Yemen & Khamran Is.
H4	Solomon Is.	UO5	Moldavian S.S.R.	7P	Lesotho
I-Z	Italy	UP2	Lithuanian S.S.R.	7Q	Malawi
IA	Tuscan Archipelago	UQ2	Latvian S.S.R.	7X	Algeria
IC	Capri & Ischia Is.	UR2	Estonian S.S.R.	7Z	Saudi Arabia
IG	Lampedusa Is.	VE	Canada		
IH	Pantelleria Is.	VK	Australia	9G	Ghana
IM	Maddalena Is.	VK2	Lord Howe Is.	9H	Malta
IS	Sardinia	VK9N	Norfolk Is.	9H4	Gozo (Malta)
IT	Sicily	VK9X	Christmas Is.	9J,9J	Zambia
JA-JS	Japan	VK9Y	Cocos (Keeling) Is.	9K	Kuwait
JD1	Ogasawara Is., Minami-Tori-Shima	VK9Z	Willis Is.	9L	Sierra Leone
JR6	Okinawa (Ryukyu Is.)	VX0	Australian Antarctica	9M2	West Malaysia
JT	Mongolia	VY0	Newfoundland (Canada)	9M6	Sabah
JW	Svalbard Is.	VP1	Labrador (Canada)	9M8	Sarawak
JX	Jan Mayen Is.	VP2	Belize	9N	Nepal
JY	Jordan	VP2A	Leeward & Windward Is.	9Q	Zaire
JZ	Djibouti	VP2E	Antigua, Barbuda	9U	Burundi
J3	Grenada	VP2K	Anguilla	9V	Singapore
J5	Guinea Bissau	VP2M	St. Kitts, Nevis	9X	Rwanda
J6	St. Lucia	VP2V	Montserrat	9Y	Trinidad & Tobago
J73	Dominica	VP5	British Virgin Is.		
J8	St. Vincent	VP8	Turks & Caicos Is.		
			Faialand, S. Georgia, S. Orkney, S. Sandwich, S. Shetland Is., Graham Land		

FEDERAL COMMUNICATIONS COMMISSION EXAMINATION POINTS

Examinations for commercial and amateur radio operator licenses are conducted at the following F.C.C. field offices on the days designated by the Engineer in Charge of each office. Specific dates should be obtained from the Engineer in Charge.

OFFICE LOCATION

Alaska, Anchorage 99510
U. S. Post Office Bldg.-Rm. G63
4th & G Street, P. O. Box 644

California, Long Beach 90807
3711 Long Beach Blvd., Suite 501

California, San Diego 92101
Fox Theatre Bldg., 1245 7th Ave.

California, San Francisco 94111
555 Battery St., 323A Customhouse

Colorado, Denver 80202
The Executive Tower - Suite 2925
1405 Curtis Street

District of Columbia - Washington, DC 20554
Room 411, 1919 M Street NW

Florida, Miami 33130
919 Federal Building
51 SW 1st Avenue

Florida, Tampa 33607
ADP Building - Suite 601
1211 North Westshore Blvd.

Georgia, Atlanta 30309
440 Massell Building
1365 Peachtree Street NE

Georgia, Savannah 31402
238 Federal Office Bldg.
125 Bull St., P. O. Box 8004

Hawaii, Honolulu 96808
502 Federal Building
335 Merchant St., P.O. Box 1021

Illinois, Chicago 60604
3935 Federal Building
230 South Dearborn Street

Louisiana, New Orleans 70130
829 F. Edward Hebert Federal Bldg.
600 South Street

Maryland, Baltimore 21201
George M. Fallon Fed. Bldg. - Rm. 823
31 Hopkins Plaza

Massachusetts, Boston 02109
1600 Customhouse - 165 State St.

Michigan, Detroit 48226
1054 Federal Bldg.
231 West Lafayette Street

Minnesota, St. Paul 55101
691 Federal Building
316 North Robert Street

Missouri, Kansas City 64133
Brywood Off. Tower - Suite 320
8800 East 63rd Street

New York, Buffalo 14202
1307 Federal Building
111 W. Huron St. at Delaware Ave.

New York, New York 10014
201 Varick Street

Oregon, Portland 97204
1782 Federal Office Bldg.
1220 SW 3rd Avenue

Pennsylvania, Langhorne 19047
1 Oxford Valley Off. Bldg.-Rm. 404
2300 E. Lincoln Hwy.

Puerto Rico, San Juan 00903
U. S. Post Office - Rm. 323

Texas, Beaumont 77701
323 Federal Building
300 Willow Street

Texas, Dallas 75242
Earle Cabell Fed. Bldg. - Rm. 13E7
1100 Commerce Street

Texas, Houston 77002
5636 Federal Building
515 Rusk Avenue

Virginia, Norfolk 23502
Military Circle
870 North Military Highway

Washington, Seattle 98174
3256 Federal Building
915 2nd Avenue

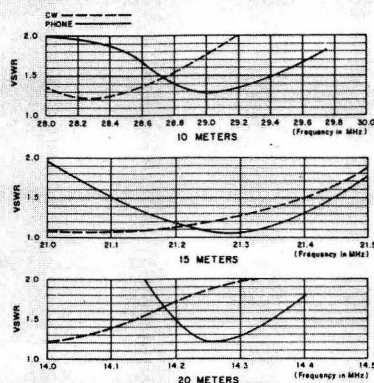
hy-gain®

For Serious Amateurs Only

The HQ2, a Broadband Tribander with no compromise.

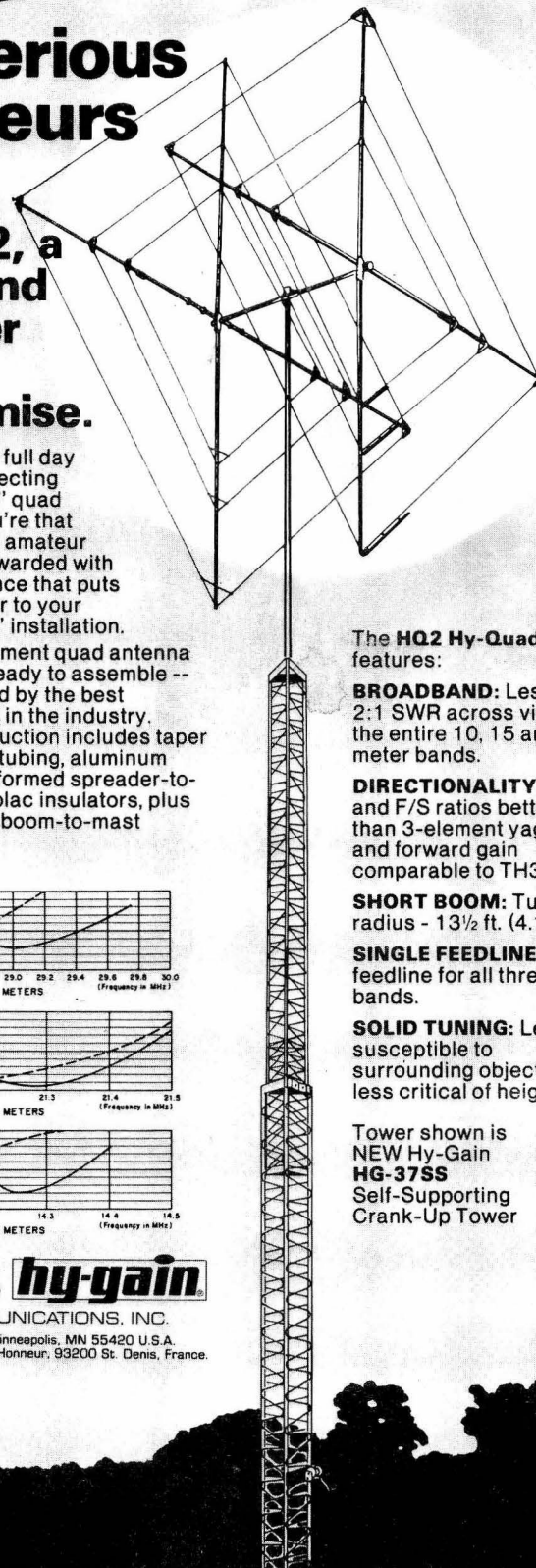
You could spend a full day assembling and erecting this "highly visible" quad antenna. But, if you're that serious about your amateur hobby, you'll be rewarded with antenna performance that puts you one step closer to your dream of an "ideal" installation.

The HQ2 is a 2-element quad antenna in a complete kit, ready to assemble -- designed and tuned by the best antenna engineers in the industry. Heavy-duty construction includes taper swaged aluminum tubing, aluminum stranded wire, die formed spreader-to-boom clamps, cycloc insulators, plus a universal tiltable boom-to-mast clamp.



TELEX hy-gain®

TELEX COMMUNICATIONS, INC.
9600 Aldrich Ave. So. Minneapolis, MN 55420 U.S.A.
Europe: 22, rue de la Légion-d'Honneur, 93200 St. Denis, France.



The HQ2 Hy-Quad features:

BROADBAND: Less than 2:1 SWR across virtually the entire 10, 15 and 20 meter bands.

DIRECTIONALITY: F/B and F/S ratios better than 3-element yagis and forward gain comparable to TH3Mk3.

SHORT BOOM: Turning radius - 13½ ft. (4.1 m).

SINGLE FEEDLINE: One feedline for all three bands.

SOLID TUNING: Less susceptible to surrounding objects and less critical of height.

Tower shown is
NEW Hy-Gain
HG-37SS
Self-Supporting
Crank-Up Tower

COUNTRY	ZONE	PREFIX	COUNTRY	ZONE	PREFIX	COUNTRY	ZONE	PREFIX
Afghanistan	.21	YA	Haiti	.8	HH	Reunion Is.	.39	FR
Agalega Is.	.39	3B6	Hawaii	.31	KH6	Revilla Gigedo Is.	.6	XF4
Aland Is.	.15	OH0	Heard Is.	.39	VK0	Rodriguez Is.	.39	3B9
Alaska	.1	KL7	Honduras	.7	HR	Romania	.20	YO
Albania	.15	ZA	Hong Kong	.24	V56	Rota Is.	.27	KG6,KH2
Algeria	.33	7X	Howland Is.	.31	KB6,KH1	Rwanda	.36	9X
Amsterdam & St. Paul Is.	.39	FB8Z	Hungary	.15	HA,HG			
Andaman & Nicobar Is.	.26	VU7				Sabah	.28	9M6
Angola	.14	C3	Iceland	.40	TF	Saba Is.	.8	PH
Aran Is.	.14	EJ0	India	.22	VU	St. Brandon Is.	.39	3B7
Argentina	.13	LU	Indonesia	.28	YB,YC,YD	St. Eustatius	.8	PJ
Aruba	.9	PJ	Iran	.21	EP	St. Helena Is.	.36	ZD7
Ascension Is.	.36	ZD8	Iraq	.21	YI	St. Martin Is.	.8	FS
Auckland Is.	.32	ZL	Ireland	.14	EI	St. Peter & St. Paul Rocks	.11	PY0
Australia	.29,30	VK	Ischia	.15	IC	St. Pierre & Miquelon Is.	.5	FP
Austria	.15	OE	Isle of Man	.14	GD	Saipan Is.	.27	KG6,KH2
Aves Is.	.8	YV0	Israel	.20	4X,4Z	Samoa, American	.32	KS6,KH8
Azores Is.	.14	CT2	Italy	.15	I-IZ	Samoa, Western	.32	5W
			Ivory Coast	.35	TU	San Andres & Providencia Is.	.7	h
Bahama Is.	.8	C6	Jamaica	.8	6Y	San Felix Is.	.12	CE0
Bahrain	.21	AY	Jan Mayen Is.	.40	JX	San Marino	.15	M
Bajo Nuevo Is.	.8	HK0	Japan	.25	JA-J5	Sao Tome & Principe	.36	S9
Baker Is.	.31	KB6,KH1	Japan, U.S. Personnel in	.25	KA	Sarawak	.28	9M8
Balearic Is.	.14	EA6	Jarvis Is.	.31	KP6,KH5	Sardinia	.15	IS
Bangladesh	.22	52,S3	Jersey	.14	GJ	Saudi Arabia	.21	H2,Z2
Barbados Is.	.8	8P	Johnston Is.	.31	KJ6,KH3	Saudi Arabia/Iraq Neutral Zone	.21	8Z4
Belgium	.14	ON	Jordan	.20	JY	Scotland	.14	GM
Belize	.7	VP1	Juan de Nova Is.	.39	FR	Senegal	.35	6W
Benin	.35	TY	Juan Fernandez Is.	.12	CE0Z	Serrana Bank & Roncador Cay	.7	HK0
Bermuda Is.	.5	VP9				Seychelles	.39	S79
Bolivia	.22	A5	Kamran Is.	.21	70	Sicily	.15	IT
Bonair	.9	PJ	Kerguelen Is.	.39	FB8X	Sierra Leone	.38	9L
Botswana	.38	A2	Kermadec Is.	.32	ZL	Singapore	.28	9V
Bouvet Is.	.38	3Y	Kiribati	.31	T3	Sint Maarten Is.	.8	PJ
Brazil	.11	PP-PY	Korea	.25	HL,HM	Solomon Is.	.28	H4
Brunei	.28	V55	Kure Is.	.31	KH7	Somali Republic	.37	60
Bulgaria	.20	LZ	Kuwait	.21	9K	South Africa, Rep. of	.38	ZR,Z5
Burma	.26	XZ				South Georgia Is.	.13	VP8
Burundi	.36	9U	Labrador (Canada)	.2	VO2	South Orkney Is.	.13	LU,VP8
			Laccadive Is.	.22	VU7	South Sandwich Is.	.13	LU,VP8
Cambodia	.26	XU	Lampedusa Is.	.15	XW	South Shetland Is.	.13	CE9,LU,VP8
Cameroon	.36	TJ	Lebanon	.20	OD	Soviet Union:		
Campbell Is.	.32	ZE	Leeward Is.			European U.S.S.R.	.16	UA1-6
Canada	.1,2,3,4,5	VL	Anguilla	.8	VP2E	Asian U.S.S.R.	.17,18,19	UA9,0
Canary Is.	.33	EA8	Antigua, Barbuda	.8	VP2A	Armenian S.S.R.	.21	UG6
Cape Verde	.35	D4	British Virgin Is.	.8	VP2V	Azerbaijdzhan S.S.R.	.21	UD6
Capri Is.	.15	IC	Montserrat	.8	VP2M	Estonian S.S.R.	.15	UR2
Caroline Is.	.27	KC6	St. Kitts, Nevis	.8	VP2K	Franz Josef Land	.40	UA1
Cayman Is.	.8	ZF	Lesotho	.38	7P	Georgian S.S.R.	.21	UF6
Central African Republic	.36	TL	Liberia	.35	EL,SL	Kaliningradsk	.15	UA2
Ceuta & Melilla (Spanish)	.33	EA9	Liechtenstein	.14	HB0	Karelo-Finnish S.S.R.	.16	UN1
Chad	.39	VT	Lord Howe Is.	.30	VK2	Kazakh S.S.R.	.17	UL7
Chagos	.39	VQ9	Luxembourg	.14	LX	Kirghiz S.S.R.	.17	U08
Chatham Is.	.32	CE				Latvian S.S.R.	.15	U08
Chile	.23,24	B	Macao	.24	CR9	Lithuanian S.S.R.	.17	UP2
China	.29	VK9X	Macquarie Is.	.30	VK0	Moldavian S.S.R.	.16	U05
Christmas Is.	.7	F10	Maddalena Is.	.15	IM	Tadzhik S.S.R.	.17	UJ8
Clipperton Is.	.7	T9	Madeira Is.	.33	CT3	Turkmen S.S.R.	.17	UH8
Cocos Is.	.7	VK9Y				Ukrainian S.S.R.	.16	UB5
Cocos (Keeling) Is.	.29	VK9Y	Madagascar	.39	5R	Uzbek S.S.R.	.17	UI8
Colombia	.9	HK	Malawi	.37	7Q	White Russian S.S.R.	.16	UC2
Comoros	.39	DN	Malaysia, West	.28	9M2	Spain	.14	EA
Congo	.36	T6	Maldives Is.	.22	8Q	Sri Lanka	.22	4S
Corsica	.32	ZK1	Malpelo	.9	HK0	Sudan	.34	ST
Costa Rica	.7	TI	Malta	.15	9H	Surinam	.9	PZ
Crete	.20	SV	Manihiki	.32	ZK1	Svalbard Is.	.7	0
Crozet Is.	.39	FB8W	Mariana Is.	.27	KG6,KH0	Swan Is.	.8	HR0
Cuba	.8	CM,C0	Market Reef	.15	OJ0	Swaziland	.38	3D6
Curacao	.9	PJ	Marshall Is.	.31	KX6	Sweden	.14	SJ-SM
Cyprus	.20	ZC,5B	Martinique	.8	FM	Switzerland	.14	HB
Czechoslovakia	.15	OK,OL	Mauritania	.35	5T	Syria	.20	YK
			Mauritius Is.	.39	3B8			
			Mayotte	.39	IC	Taiwan	.24	BV
			Mexico	.6	XE,XF	Tanzania	.37	5H3
			Midway Is.	.31	KM6,KH4	Thailand	.26	H5
			Minami-Tori-Shima	.27	JD1	Timor Is.	.28	YB,YH
			Monaco	.14	3A	Togo	.35	AM
			Mongolia	.23	JT	Tokelau Is.	.31	ZM7
			Morocco	.33	CN	Tonga Is.	.32	A3
			Mozambique	.37	C8,C9	Transkei	.38	58
						Trinidad & Martim Vaz Is.	.11	PY0
			Namibia	.38	ZR3,ZS3	Trinidad & Tobago Is.	.9	9Y
			Nauru	.31	C2	Tristan da Cunha Is.	.38	ZD9
			Navassa Is.	.22	KC4,KP1	Tromelin Is.	.39	FR
			Nepal	.22	9N	Tunisia	.33	3V
			Netherlands	.14	PA-PJ	Turkey	.20	TA-TC
			Netherlands Antilles	.8,9	FK	Turks & Caicos Is.	.8	VP5
			New Caledonia	.32	FJ	Tuscan Archipelago	.15	IA
			Newfoundland (Canada)	.5	VO1	Tuvalu Is.	.31	T2
			New Zealand	.32	ZL			
			Nicaragua	.7	YN	United Arab Emirates	.37	5X
			Niger	.35	5U	United Nations	.5,14	4U
			Nigeria	.35	5N	United States of America	.1,3,4,5,31	A,K,N,W
			Niue Is.	.32	ZK2	Uruguay	.13	CX
			Norfolk Is.	.32	VK0			
			Northern Ireland	.14	GJ	Vanuatu	.32	YJ
			Norway	.14	LA-LJ	Vatican City	.15	HV
						Venezuela	.9	V
			Ogasawara Is.	.27	JD1	Vietnam	.26	XV
			Okinawa (Ryukyu Is.)	.25	JR6	Virgin Is. (British)	.8	VP2V
			Okino-Tori-Shima	.27	7J	Virgin Is. (U.S.)	.8	KV4,KP2
			Oman	.21	A4	Voltaic Republic	.35	XT
			Pakistan	.21	AP	Wake Is.	.31	KW6,KH9
			Palmyra Is.	.31	KP6,KH5	Wales	.14	GW
			Panama	.7	FN	Wallis & Futuna Is.	.32	FW
			Pantelleria Is.	.33	IH	Willis Is.	.30	VK9Z
			Papa New Guinea	.28	P2	Windward Is.		
			Paraguay	.11	ZP			
			Peru	.10	OA	Dominica	.8	J73
			Philippines	.27	DU	Grenada	.8	J3
			Pitcairn Is.	.32	VR6	St. Lucia	.8	J6
			Poland	.15	SP	St. Vincent	.8	J8
			Portugal	.14	CT			
			Prince Edward & Marion Is.	.38	Z52	Yemen (North)	.21	4W
			Puerto Rico	.8	KP4	Yemen (South)	.21	70
						Yugoslavia	.15	YU
			Qatar	.21	A7	Yukon Territory (Canada)	.1	VY1
						Zaire	.36	9Q
						Zambia	.36	9I,9J
						Zanzibar (Tanzania)	.37	5H1
						Zimbabwe	.38	ZM

- QNA* Answer in prearranged order.
- QNB* Act as relay Between. . . . and
- QNC All net stations Copy.
I have a message for all net stations.
- QND* Net is Directed (controlled by net control station).
- QNE* Entire net please stand by.
- QNF Net is Free (not controlled).
- QNG Take over as net control station.
- QNH Your net frequency is High.
- QNI Net stations report In.*
I am reporting into the net.
- QNJ Can you copy me? Can you copy . . . ?
- QNK* Transmit messages for . . . to . . .
- QNL Your net frequency is Low.
- QNM* You are QRMing the net. Please stand by.
- QNN Net control station is *
What station has net control?
- QNO Station is leaving the net.
- QNP Unable to copy you (or).
- QNQ* Move frequency to . . . and wait for . . . to finish handling traffic. Then send him traffic for . . .
- QNR* Answer . . . and Relay (or Receive) traffic.
- QNS Following Stations are in the net.* (Follow with list). Request list of stations in the net.
- QNT Leaving net Temporarily (or for . . . minutes).
- QNU* The net has traffic for YOU. Stand by.
- QNV* Establish contact with on this frequency. If successful, move to . . . and send him traffic for . . .
- QNW How do I route messages for ?
- QNX You are excused from the net.*
Request to be excused from the net.
- QNY* Shift to another frequency (or to . . . kc.) to clear traffic with
- QNZ Zero beat your signal with mine.

*For use only by Net Control Station

Notes on the Use of QN Signals

1. The QN signals listed above are special ARRL signals for use in amateur c.w. nets only. Other meanings which may be used in other services do not apply.
2. Some QN signals are for use by net control stations only; these are marked with an asterisk(*). Others have slightly different meanings when used by the NCS and net stations; in this case, the meaning when used by the NCS is marked with an asterisk (*).
3. Some QN signals have two meanings, the difference depending on how or by whom used. Examples: (a) QNC, when used as a preface to transmission of a message, carries its first meaning; when used by a station reporting into the net (e.g., W9NCS DE W9NET QNI QNC), it carries its second meaning. (b) QNI, when used by the NCS, is a request for stations to report in; when used by a net station, it means that this station is reporting in. (c) QNJ, when used alone, carries its first meaning; when followed by a call, it carries the second meaning.
4. QN signals are never followed by a question mark, even though the meaning may be interrogatory.
5. Do not use QN signals on phone nets. Say it with words.
6. Use QN signals in nets only. They are not for use in casual amateur conversation.
7. Make frequent use of standard international "Q" signals in traffic nets for meanings not covered by QN signals. Examples: GRU, QRV, QSV, QTA, QTB, QTX, etc.

ARRL Communications Department

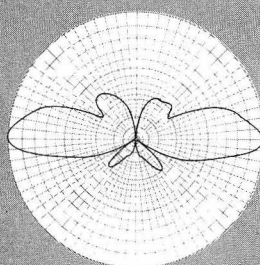
hy-gain®

NEW Extended Double Zepp Antenna Design

The Hy-Gain V2 is 2-meter extended double zepp vertical consisting of two stacked 5/8 waves properly decoupled to allow no RF on the coax feedline. Coax connects to the decoupler inside the antenna for complete weatherproofing. Mechanically the V2 has no equal. It's easy to assemble and all elements are corrosion resistant 6063-T832 aluminum with rustproof hardware. The V2 is a complete antenna that's ready to mount on any mast up to 2" (50.8 mm) in diameter.

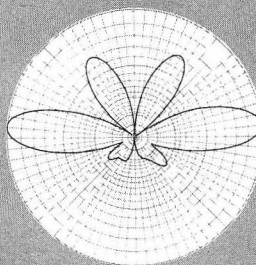
Two sets of 1/4 wave radials and a centered feedpoint put the radiation at the horizon, not the sky! The V2 and two competitors were measured for radiation efficiency on a ground-reflection-range, which was designed according to IEEE standard 149-1979, and the results shown below were conclusive.

Hy-Gain V2



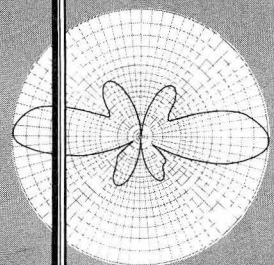
at 146.00 Mcs

Brand C ARX-2B



at 146.00 Mcs

Brand A AEA-144



at 146.00 Mcs

Designed to operate from 138 MHz through 174 MHz, the V2 obtains a VSWR of less than 1.5:1 at resonance and has a 2:1 VSWR bandwidth of at least 7 MHz. The antenna's isolation from the support mast is 20 dB minimum.

The new V2 will equal or surpass the electrical performance of any competitive two stacked 5/8 wave antenna, regardless of gains claimed or your money back. Money-back limited to 30 days. If not satisfied, return to place of purchase.

TELEX hy-gain®

TELEX COMMUNICATIONS, INC.
9600 Aldrich Ave. So., Minneapolis, MN 55420 U.S.A.
Europe: 22, rue de la Légion d'Honneur, 93200 St. Denis, France.

A.R.R.L. COUNTRIES LIST

The ARRL Postwar Countries List is the official standard used in connection with the DX Century Club. To qualify for the DX Century Club Award, an applicant must submit confirmations from at least 100 different countries contacted after November 15, 1945, in accordance with the Postwar DXCC Rules. Copies of the DXCC Rules will be furnished by ARRL on request.

AA (See K)		KM,KH4	Midway Is.	VS5	Brunei
AP	Pakistan	KP4	Puerto Rico	VS6	Hong Kong
A2	Botswana	*KP6	Desecho Is.	VS8 (See 8Q)	
A3	Tonga	KP6,KH5K	Kingman Reef	VS9K	Kamran Is.
A4X	Oman	KP6,KH5	Palmyra, Jarvis Is.	VU	India
A5	Bhutan	KS4,KP3,HK9	Serrana Bank & Roncador Cay	VU7	Andaman & Nicobar Is.
A6X	United Arab Emirates	KS6,KH8	American Samoa	VU7	Laccadive Is.
A7X	Qatar	KV,KP2	Virgin Is.	W (See K)	
A9X	Bahrain	KW,KH9	Wake Is.	XE	Mexico
BV	Taiwan	KX	Marshall Is.	XF4	Revilla Giedo
BY	China	LA,LB,LF,LG,LJ	Norway	XP (See OX)	
CE	Chile	LA (See CE9AA-AM)			
CE9AA-AM,FBBY,KC4,LA,LU,OR4,UJ		LU (See CE9AA-AM,VP8)	Argentina	*XT	Voltaic Rep.
UK1,VK9,VP8,ZL5,ZS1,3Y,4K,8J	Antarctica	LU (See CE9AA-AM,VP8)	Argentina	XU	Cambodia
CE9AN-AZ (See VP8)		LX	Luxembourg	XV	Vietnam
CE9A	Easter Is.	LZ	Bulgaria	XW	Laos
CE9X	San Felix Is.	*M1 (See 9A)		XZ	Burma
CE9Z	Juan Fernandez Is.	N (See K)		YA	Afghanistan
CM,CO	Cuba	OA	Peru	*YB,YC	Indonesia
CN	Morocco	OD	Lebanon	YJ	Iraq
CP	Bolivia	OE	Austria	YK	New Hebrides
CR9	Portugal	OH	Finland	YN,HT	Syria
CT	Azores Is.	OH9	Aland Is.	YO	Nicaragua
CT2	Madeira Is.	OJ9	Market Reef	YS	El Salvador
CT3	Uruguay	OK	Czechoslovakia	YU	Yugoslavia
CX	Nauru	ON	Belgium	YV	Venezuela
C2	Andorra	OR4 (See CE9AA-AM)		YV9	Aves Is.
C3	The Gambia	OX,XP	Greenland	ZA	Albania
C5	Bahama Is.	OY	Faeroe Is.	ZB	Gibraltar
C6	Mozambique	OZ	Denmark	ZC (See 5B)	
C9	West Germany	PA,PD,PE,PI	Netherlands	ZD7	St. Helena Is.
*DM,DT,Y2-Y9	East Germany	PJ	Netherlands Antilles	ZD8	Ascension Is.
DU	Philippines	PJ	Sint Maarten, Saba & St. Eustatius Is.	ZD9	Tristan da Cunha & Gough Is.
D2,D3	Angola	PY	Brazil	ZE	Zimbabwe
D4	Cape Verde	PY9	Fernando de Noronha	ZF	Cayman Is.
*D6	Comoros	PY9	St. Peter & St. Paul Rocks	ZK1	South Cook Is.
EA	Spain	PY9	Trindade & Martim Vaz Is.	ZK1	North Cook Is.
EA6	Balearic Is.	PZ	Surinam	ZK2	Niue
EA8	Canary Is.	*P2	Papua New Guinea	ZL	New Zealand
EA9	Ceuta and Melilla	SK,SL,SM	Sweden	ZL	Auckland Is. & Campbell Is.
EL	Republic of Ireland	SP	Poland	ZL	Chatham Is.
EL	Liberia	ST	Sudan	ZL	Kermadec Is.
EP	Iran	ST9	Southern Egypt	ZL5 (See CE9AA-AM)	
ET	Ethiopia	SV	Egypt	ZM7	Tokelau
F	France	SV	Greece	ZP	Paraguay
FB8W	Crozet Is.	SV	Crete	*ZS1,2,4,5,6,(H5,S8,T4)	Rep. of South Africa
FB8X	Kerguelen Is.	SV	Dodecanese Is.	ZS1 (See CE9AA-AM)	
FB8Y (See CE9AA-AM)		S2	Mount Athos	ZS2	Prince Edward & Marion Is.
FB8Z	Amsterdam & St. Paul Is.	S7	Bangladesh	ZS3	Namibia
*FC	Corsica	S9,CR5	Seychelles	*IS	Spratly Is.
FG	Guadeloupe Is.	TA	Sao Tome & Principe	3A	Monaco
*FG,FS	Saint Martin Is.	TF	Turkey	3B6,3B7	Agalega & St. Brandon Is.
*FH	Mayotte Is.	TG	Iceland	3B8	Mauritius Is.
FK	New Caledonia	TI	Guatemala	3B9	Rodriguez Is.
FM	Martinique Is.	TI9	Costa Rica	3C	Equatorial Guinea
FO	Clipperton Is.	TJ	Cocos Is.	3C9	Annobon
FO	French Polynesia	*TL	Cameroun	3D2	Fiji Is.
FP	St. Pierre & Miquelon Is.	*TN	Central African Rep.	3D6	Swaziland
*FR	Glorioso Is.	*TR	Congo	3V	Tunisia
*FR	Juan de Nova, Europa Is.	*TT	Gabon	3X	Guinea
FR	Reunion Is.	*TU	Chad	3Y	Bouvet Is.
FR	Tromelin Is.	*TY	Ivory Coast	3Y (See CE9AA-AM)	
FY	Wallis & Futuna Is.	*TZ	Benin	4K (See CE9AA-AM)	
G	England	*T2,VR8	Mali	4S	Sri Lanka
GD	Isle of Man	T3,VR1	Cent. Kiribati (Br. Phoenix Is.)	4U	ILTU, Geneva
GI	Northern Ireland	T3,VR1	West Kiribati (Gilbert & Ocean Is.)	4U	UN Hq. New York
GJ,GC	Jersey	T3,VR3	East Kiribati (Line Is.)	4W	Yemen
GM	Scotland	UA,UK1,3,4,6;UV,UW1-6,UN1	European USSR	4X,4Z	Israel
GU,GC	Guernsey & Dependencies	UA1,UK1 (See CE9AA-AM)	Franz Josef Land	5A	Libya
GW	Wales	UA2,UK2F	Kaliningradsk	5B,ZC	Cyprus
HA	Hungary	UA,UK,UV,UW9-9	Asiatic USSR	5H	Tanzania
HB	Switzerland	UB,UK,UT,UV5	Ukraine	5N	Nigeria
HB9	Liechtenstein	UC2,UK2A/C/I/L/O/S/W	White Russian S.S.R.	5R	Madagascar
HC	Ecuador	UD6,UK6C/D/K	Azerbaijan	*SU	Mauritania
HC8	Galapagos Is.	UF6,UK6F/O/Q/V	Georgia	5U	Niger
HH	Haiti	UG6,UK6G	Armenia	5V	Togo
HI	Dominican Republic	UH8,UK8H	Turkoman	5W	Western Samoa
HK	Colombia	UI8,UK8	Uzbek	5X	Uganda
HK9	Bajo Nuevo	UJ8,UK8J/R	Tadzhik	5Z	Kenya
HK9	Malpelo Is.	UL7,UK7	Kazakh	60	Somali Rep.
HK9	San Andres & Providencia Is.	UM8,UK8M,N	Kirghiz	*6W	Senegal
HK9 (See K54)		UO5,UK5O	Moldavia	6Y	Jamaica
HL,HM	Korea	UP2,UK2B/P	Lithuania	70	South Yemen
HP	Panama	UQ2,UK2G/Q	Latvia	7P	Lesotho
HR	Honduras	UR2,UK2R/T	Estonia	7Q	Malawi
HS	Thailand	VE,VO,VY1	Canada	7X	Algeria
HV	Vatican	VE1	Sable Is.	7Z (See HZ)	
HZ,7Z	Saudi Arabia	VE1	St. Paul Is.	8J (See CE9AA-AM)	
H4,VR4	Solomon Is.	VK	Australia	8P	Barbados Is.
I,IT	Italy	VK	Lord Howe Is.	8Q,V59	Maldives Is.
IS	Sardinia	VK9	Willis Is.	8R	Guyana
JA,JK,KA	Japan	VK9	Christmas Is.	8Z4	Saudi Arabia/Iraq Neutral Zone
*JD,KA1	Marianas (Guam, Saipan, Tinian)	VK9	Cocos (Keeling) Is.	*9A,M1	San Marino
*JD,KA1	Ogasawara Is.	VK9	Melish Reef	9G	Ghana
JT	Mongolia	VK9	Norfolk Is.	9H	Malta
JW	Svalbard Is.	VK9 (See CE9AA-AM)		9J	Zambia
JX	Jan Mayen Is.	VK9		9K	Kuwait
JY	Jordan	VO (See VE)		9L	Sierra Leone
J2,FL8	Djibouti	VP1	Belize	*9M2	West Malaysia
J3,VP2G	Grenada & Dependencies	*VP2A	Antigua, Barbuda	*9M6,9M8	East Malaysia
J5,CR3	Guinea-Bissau	*VP2B	Anguilla	9N	Nepal
J6,VP2L	St. Lucia	*VP2M	St. Kitts, Nevis	9Q	Zaire
J7,VP2D	Dominica	*VP2M	Montserrat	9R	Burundi
K,W,N,A	United States of America	*VP2M	St. Vincent & Dependencies	*9Y	Singapore
KB,KH1	Baker, Howland & U.S. Phoenix Is.	*VP2V	British Virgin Is.	*9X	Rwanda
KC4 (See CE9AA-AM)		VP5	Turks & Caicos Is.	9Y	Trinidad & Tobago
KC4,KP1	Navassa Is.	VP8 (See CE9AA-AM)			
KC6	Eastern Caroline Is.	VP8	Falkland Is.		
KC6	Western Caroline Is.	VP8,LU	South Georgia Is.		
KG4	Guantanamo Bay	VP8,LU	South Orkney Is.		
KG6,KH2	Guam	VP8,LU	South Sandwich Is.		
KG6,S,T,KH9	Mariana Is.	VP8,LU,CE9AN-AZ,HF9,4K	South Shetland Is.		
KH6	Hawaiian Is.	VP9	Bermuda Is.		
KH7	Kure Is.	VQ9	Chagos Arch.		
KJ,KH3	Johnston Is.	VR6	Pitcairn Is.		
KL7	Alaska				

ARRL Adopted ICAO Phonetic Alphabet

(International Civil
Aviation Organization)

A	ALFA
B	BRAVO
C	CHARLIE
D	DELTA
E	ECHO
F	FOXTROT
G	GOLF
H	HOTEL
I	INDIA
J	JULIETT
K	KILO
L	LIMA
M	MIKE
N	NOVEMBER
O	OSCAR
P	PAPA
Q	QUEBEC
R	ROMEO
S	SIERRA
T	TANGO
U	UNIFORM
V	VICTOR
W	WHISKEY
X	X-RAY
Y	YANKEE
Z	ZULU

Use of this standard list is recommended by ARRL. Haphazard selection of words often results in confusion. A degree of uniformity in use of phonetic words reflects favorably on your individual operating, and on the whole amateur service.

ON GOOD PHONE OPERATING

1. Listen much . . . with care. Avoid distractions in your operating room. Tune the band well after each call.
2. Time your calls; monitor your own frequency. Call only when a station is free.
3. Make short calls, with breaks to listen. Speak clearly, at a steady, modest rate. Three short calls are better than one long one.
4. Use push-to-talk technique . . . speak near the mike. Watch the modulation indicator. Keep local background noise at a minimum.
5. Make notes. Avoid missing points for comment. Jot down topics to avoid repeats.
6. Talk in connected thoughts and phrases. Notes will help avoid mixing up subjects. Push-to-talk technique will keep brother amateurs from calling you a monologist.
7. Speak naturally. QSOs need not be cut and dried. Make them interesting. Avoid exhibitionism. Use proper operating form to promote efficiency in communication and add respect and prestige for your station.

American Radio Relay League
225 Main Street
Newington, Conn. 06111, USA

hy-gain®

9

18HT Hy-Tower

The World's Finest Multiband Vertical

The 18HT Hy-Tower is the only full size, 80 thru 6 meter, automatic band-switching vertical antenna on the market today. A unique stub decoupling system effectively isolates various sections of the antenna to provide a full quarter wavelength antenna on 80 and 40 meters, and a pattern-compressing 5/8 wavelength radiator on 20, 15 and 10 meters. The 24 foot tower section of the antenna, in combination with the decoupling system, achieves excellent bandwidth.

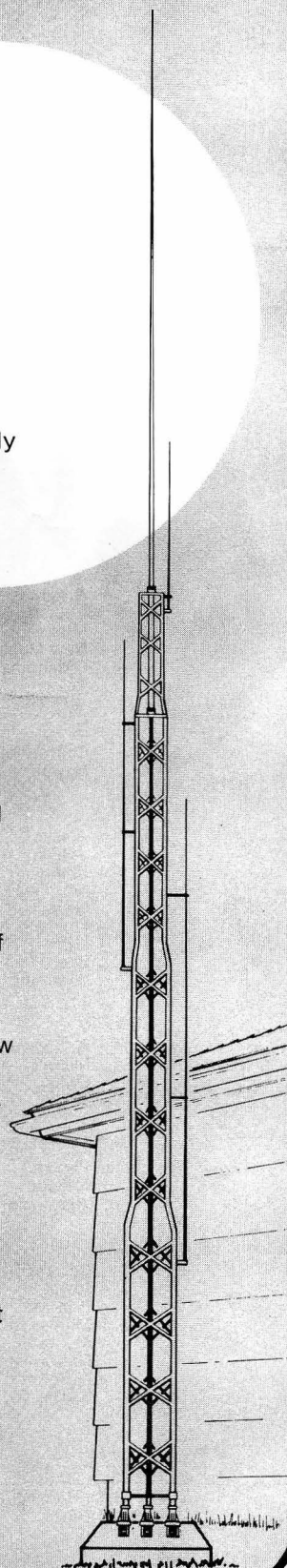
The Hy-Tower, a "low visibility" antenna, takes less than three sq. ft. (2.8 sq. m) of real estate and uses top quality materials and construction. The entire all-band system is fed with a single feedline. Installation and maintenance are simplified by a unique hinged, tilt-over base. Excellent performance can be achieved with a ground system of 6 ground rods at the base of the antenna. Performance can be further optimized with the installation of a buried radial system. 160 meters can be added to the antenna with the installation of a base-loading coil, and an additional kit will be available when the new WARC bands are authorized, adding all three of these new bands to the Hy-Tower.

BEAM PERFORMANCE—A system of two or three Hy-Towers can be installed as a phased array, delivering true beam performance on any two adjacent bands. A rotatable beam signal on 40 and 75/80 meters! Imagine what that will do for your transmit and receive signal! We have a complete engineering technical data report on phased verticals. Write for your free copy today.

TELEX hy-gain®

TELEX COMMUNICATIONS, INC.

9600 Aldrich Ave. So., Minneapolis, MN 55420 U.S.A.
Europe: 22, rue de la Légion-d'Honneur, 93200 St. Denis, France.



CENSUS OF AMATEUR RADIO LICENSES* in the U.S.A.

by classes, within states and call areas

Call Area	State	Novice	Technician	General	Advanced	Extra	Club	Military	Repeaters	State Totals
1	Conn.	1,403	901	2,120	1,404	570	85	4	39	6,526
	Maine	524	283	855	470	185	13	1	17	2,348
	Mass.	2,045	2,468	3,669	2,500	981	127	10	69	11,869
	N.H.	461	435	798	554	213	13	2	16	2,492
	R.I.	345	428	555	288	129	21	2	10	1,778
	Vermont	163	121	379	221	72	12		2	970
		4,941	4,636	8,376	5,437	2,150	271	19	153	25,983
2	Guam	29	21	36	43	14		2		145
	New Jersey	2,190	2,969	4,088	3,190	1,197	246	6	63	13,949
	New York	5,747	5,251	7,772	5,858	2,055	274	15	135	27,107
	Virgin Is.	67	8	39	31	10				155
		8,033	8,249	11,935	9,122	3,276	520	23	198	41,356
3	Delaware	219	168	255	195	99	5	1	8	950
	D.C.	65	40	140	113	62	8	4	1	433
	Maryland	1,321	1,167	2,071	1,967	750	73	14	24	7,387
	Penn.	3,560	3,395	5,528	3,852	1,301	167	23	100	17,926
		5,165	4,770	7,994	6,127	2,212	253	42	133	26,696
4	Alabama	1,024	1,155	1,623	1,228	423	26	5	43	5,527
	Florida	4,085	4,196	6,671	5,231	1,393	102	8	109	21,795
	Georgia	1,376	1,301	2,169	1,636	544	46	7	40	7,119
	Kentucky	1,062	885	1,387	843	262	29	3	29	4,500
	N.C.	1,459	1,330	2,480	1,827	584	50	3	47	7,780
	Puerto Rico	1,130	630	308	288	76	6	2	10	2,450
	S.C.	494	503	1,198	787	269	60	5	20	3,336
	Tenn.	1,566	1,675	2,052	1,796	533	48	3	58	7,731
	Virginia	1,569	1,292	2,763	2,254	859	47	16	44	8,844
		13,765	12,967	20,651	15,890	4,943	414	52	400	69,082
5	Arkansas	553	515	989	662	203	22	1	25	2,970
	Louisiana	933	748	1,486	1,194	367	44	2	23	4,797
	Mississippi	455	455	799	585	178	9	3	20	2,504
	New Mexico	350	378	839	626	245	11	1	18	2,468
	Oklahoma	827	967	1,414	1,238	315	32	3	23	4,819
	Texas	4,087	4,319	7,375	5,696	1,700	133	11	167	23,488
		7,205	7,382	12,902	10,001	3,008	251	21	276	41,046
6	California	8,689	11,453	15,184	13,641	3,939	475	44	402	53,827
	Hawaii	325	243	513	508	167	12	8	9	1,785
		9,014	11,696	15,697	14,149	4,106	487	52	411	55,612
7	Alaska	320	238	523	415	167	11	16	6	1,696
	Arizona	1,065	1,425	2,026	1,731	491	33	4	28	6,803
	Idaho	451	271	642	400	133	16		9	1,922
	Montana	328	120	612	325	106	17		11	1,519
	Nevada	326	270	579	375	131	17	2	23	1,723
	Oregon	1,522	1,025	2,354	1,582	467	43	3	34	7,030
	Utah	382	500	633	545	161	20	4	22	2,267
	Washington	2,163	1,798	3,806	2,712	898	67	10	62	11,516
	Wyoming	201	111	318	169	48	7	1	10	865
		6,758	5,758	11,493	8,254	2,602	231	40	205	35,341
8	A. Samoa	8	2	13	7	3				33
	Michigan	3,349	2,727	4,627	3,149	1,023	90	7	67	15,039
	Ohio	4,555	5,128	6,097	4,202	1,268	167	8	137	21,562
	W.V.	912	448	906	522	180	18	2	20	3,008
		8,824	8,305	11,643	7,880	2,474	275	17	224	39,642
9	Illinois	3,591	3,671	5,666	3,818	1,251	182	7	81	18,267
	Indiana	2,221	2,188	2,813	1,952	550	91	2	50	9,867
	Wisconsin	1,440	1,046	2,321	1,516	441	58	3	50	6,875
		7,252	6,905	10,800	7,286	2,242	331	12	181	35,009
10	Colorado	1,190	958	1,993	1,457	515	35	5	61	6,214
	Iowa	1,148	737	1,697	1,310	337	59	4	30	5,322
	Kansas	1,018	602	1,678	990	317	28	7	33	4,673
	Minnesota	1,513	1,039	2,347	1,692	557	72	2	30	7,252
	Missouri	1,755	1,290	2,598	1,811	592	70	4	35	8,155
	Nebraska	552	409	1,040	704	142	34	2	20	2,903
	N.Dakota	214	86	423	192	54	9		2	980
	S.Dakota	239	126	425	275	67	11		8	1,151
		7,629	5,247	12,201	8,431	2,581	318	24	219	36,650
Grand Total 50 States, D.C., Puerto Rico & U.S. Possessions		78,586	75,915	123,692	92,577	29,594	3,351	302	2,400	406,417

*From the 1982 Radio Amateur Callbook

In the proud tradition of the S/Line and KWM-2: Collins KWM-380.

What is "tradition"? Fifty years of HF communications experience and a high technology base that makes us an industry leader. Plus added value like the KWM-380 12-month warranty and 24-hour factory "burn-in" followed by individual testing and calibration of each transceiver.

The Collins KWM-380 gives you "tradition" in one box. Microprocessor control provides operation from the front panel or optional remote interface connector. Plug-in read-only-memory I.C. allows the addition

of WARC band changes. Built-in AC/DC power supply lets you operate almost anywhere.

Rate selectable tuning to 10 Hz with frequency memory and split VFO provide excellent operational flexibility.

The Collins KWM-380. A sound investment that offers excellent resale value. See it at your authorized dealer. Collins Telecommunications Products Division, Rockwell International, Cedar Rapids, Iowa 52498. Phone 319/395-5963. Telex 464-435.



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...where science gets down to business



CENSUS OF AMATEUR RADIO LICENSES OF THE WORLD*

PREFIX	COUNTRY	NUMBER OF RADIO AMATEUR LICENSES LISTED
AP	Pakistan	.70
A2	Botswana	.45
A3	Tonga	.22
A4	Oman	.44
A5	Bhutan	.5
A6	United Arab Emirates	.2
A7	Qatar	.16
A9	Bahrain Is	.43
BV	Taiwan	.2
CE	Chile	.2,719
CM,CO	Cuba	.461
CN	Morocco	.113
CP	Bolivia	.1,498
CR9	Macao	.7
CT	Portugal	.2,148
CT2	Azores Is	.73
CT3	Madeira Is	.73
CX	Uruguay	.3,212
C2	Nauru	.9
C3	Andorra	.197
C5	The Gambia	.48
C6	Bahama Is	.59
DA-DL	West Germany	.47,298
DJ	Philippines	.629
D2	Angola	.10
D4	Cape Verde	.2
D6	Comoros	.4
EA	Spain	.8,191
EA6	Balearic Is	.211
EA8	Canary Is	.612
EA9	Ceuta & Melilla	.125
E1	Ireland	.939
EJ9	Aran Is	.1
EL,5L	Liberia	.91
EP	Iran	.29
F	France	.10,879
FB8	Amsterdam, St. Paul, Crozet, Kerguelen Is	.37
FC	Corsica	.55
FG	Guadeloupe	.78
FH	Mayotte	.8
FK	New Caledonia	.88
FM	Martinique	.76
FO	French Polynesia	.125
FR	St. Pierre & Miquelon Is	.51
FR	Reunion Is	.59
FW	Wallis & Futuna	.7
FY	French Guiana	.48
G	England	.24,942
GD	Isle of Man	.79
GI	Northern Ireland	.751
GJ	Jersey	.80
GM	Scotland	.1,591
GU	Bailiwick of Guernsey	.92
GW	Wales	.1,264
HA,HG	Hungary	.1,854
HB	Switzerland	.3,258
HB9	Liechtenstein	.13
HC	Ecuador	.1,136
HC8	Galapagos Is	.11
HH	Haiti	.56
HI	Dominican Republic	.1,505
HK	Colombia	.3,265
HK9	Bajo Nuevo Is	.1
HK9	Malpelo Is	.1
HK9	San Andres & Providencia	.37
HL,HM	Korea	.375
HP	Panama	.620
HR	Honduras	.252
HS	Thailand	.198
HV	Vatican City	.3
HZ,7Z	Saudi Arabia	.11
H4	Solomon Is	.94
H5	Bophuthatswana	.7
I	Italy	.18,230
IA	Tuscan Archipelago	.9
IC	Capri & Ischia Is	.35
IE	Ustica Is	.3
IF	Levanzo Is	.2
IG	Lampedusa Is	.7
IH	Pantelleria Is	.7
IM	Maddalena Is	.5
IS	Sardinia	.345
IT	Sicily	.947

PREFIX	COUNTRY	NUMBER OF RADIO AMATEUR LICENSES LISTED
JA-JS	Japan	.27,425
JD1	Ogasawara	.253
JT	Mongolia	.44
JW	Svalbard Is	.11
JX	Jan Mayen Is	.14
JY	Jordan	.117
J2	Djibouti	.71
J3	Grenada	.71
J6	St. Lucia	.150
J73	Dominica	.56
J8	St. Vincent	.37
K,A,N,W	U.S.A. (48 States)	.400,153
KG6,KH9	Mariana Is	.145
KH6	Hawaii	.1,785
KL7	Alaska	.1,696
KP4	Puerto Rico	.2,450
KS6,KH8	American Samoa	.33
KV4,KP2	U.S. Virgin Is	.155
LA-LJ	Norway	.5,358
LU	Argentina	.24,918
LX	Luxembourg	.285
LZ	Bulgaria	.785
M1	San Marino	.8
N	U.S.A. (See K,A,N,W)	
OA	Peru	.1,878
OD	Lebanon	.172
OE	Austria	.3,382
OH	Finland	.3,541
OH9	Aland Is	.29
OJ9	Market Reef	.2
OK,OL	Czechoslovakia	.3,203
ON	Belgium	.3,541
OX,XP	Greenland	.198
OY	Faeroe Is	.111
OZ	Denmark	.8,318
PA-PI	Netherlands	.9,516
PJ	Netherlands Antilles	.166
PP-PY	Brazil	.18,011
PY9	Fernando de Noronha Is	.18
PY9	Trindade & Martim Vaz Is	.2
PZ	Surinam	.65
PZ	Papua New Guinea	.149
SJ,SM	Sweden	.9,969
SO,SP,SQ	Poland	.6,713
ST,6T,6U	Sudan	.8
SU	Egypt	.11
SV	Greece, Crete	.333
S2	Bangladesh	.3
S79	Seychelles	.4
S8	Transkei	.21
S9	Sao Tome & Principe	.1
TA-TC	Turkey	.23
TF	Iceland	.111
TG	Guatemala	.487
TI	Costa Rica	.821
T19	Cocos Is	.10
TJ	Cameroon	.24
TL	Central African Republic	.8
TN	Congo	.9
TR	Gabon	.33
TU	Chad	.3
TV	Ivory Coast	.136
T2	Benin	.2
T3	Tuvalu	.7
T3	Kiribati	.11
U,R	Soviet Union	.20,308
VE	Canada	.22,494
VK	Australia	.14,538
VO1	Newfoundland	.397
VO2	Labrador	.44
VP1	Belize	.181
VP2	Windward & Leeward Is	.214
VP5	Turks & Caicos Is	.108
VP8	British South Atlantic Is	.432
VP9	Bermuda	.125
VQ9	Chagos Archipelago	.16
VR6	Pitcairn Is	.3
V55	Brunei	.22
V56	Hong Kong	.112
VU	India	.1,177
VY1	Canadian Yukon	.51
W	U.S.A. (See K,A,N,W)	

PREFIX	COUNTRY	NUMBER OF RADIO AMATEUR LICENSES LISTED
XE,XF	Mexico	.1,777
XT	Voltaic Republic	.13
XU	Cambodia	.1
XW	Laos	.5
XZ	Burma	.17
YB-YD	Indonesia	.5,279
YJ	Vanuatu	.47
YK	Syria	.10
YN	Nicaragua	.427
YO	Romania	.2,197
YS	El Salvador	.338
YU	Yugoslavia	.5,174
YV	Venezuela	.15,076
Y2-Y9	East Germany	.601
ZB2	Gibraltar	.46
ZC	Cyprus (Br. Forces)	.22
ZD7	St. Helena Is	.7
ZD8	Ascension Is	.37
ZD9	Tristan da Cunha and Gough Is	.8
ZE	Zimbabwe	.168
ZF	Cayman Is	.165
ZK1	Cook Is	.42
ZK2	Niue Is	.9
ZL	New Zealand	.5,998
ZP	Paraguay	.668
ZR,ZS	South Africa	.3,823
ZR3,ZS3	Namibia	.91
3A	Monaco	.50
3B6	Agalega Is	.3
3B7	St. Brandon Is	.3
3B8	Mauritius Is	.38
3B9	Rodriguez Is	.3
3C	Equatorial Guinea	.1
3D2	Fiji Is	.58
3D6	Swaziland	.39
3V	Tunisia	.3
3Y	Norwegian Antarctica	.1
4S	Sri Lanka	.101
4U	United Nations	.2
4X,4Z	Israel	.949
5B	Cyprus	.203
5H1	Zanzibar (Tanzania)	.1
5H3	Tanzania	.9
5N	Nigeria	.107
5R	Madagascar	.3
5T	Mauritania	.15
5U	Niger	.13
5V	Togo	.9
5W	Western Samoa	.80
5X	Uganda	.3
5Z	Kenya	.124
6O	Somali Republic	.1
6W	Senegal	.136
6Y	Jamaica	.137
7J	Okino-Tori-Shima	.1
7P	Lesotho	.24
7Q	Malawi	.2
7X	Algeria	.98
7Z	Saudi Arabia	.2
8J	Japanese Antarctica	.16
8P	Barbados Is	.161
8Q	Maldives Is	.12
8R	Guyana	.35
9G	Ghana	.178
9H	Malta	.113
9H4	Gozo (Malta)	.16
9I,9J	Zambia	.33
9K	Kuwait	.144
9L	Sierra Leone	.14
9M2	West Malaysia	.123
9M6	Sabah	.18
9M8	Sarawak	.9
9N	Nepal	.3
9Q	Zaire	.14
9U	Burundi	.9
9V	Singapore	.64
9X	Rwanda	.32
9Y	Trinidad & Tobago Is	.140

*From the 1982 RADIO AMATEUR CALLBOOKS. Absence of prefix and country indicates either that no licenses have been issued or that the license information has not been obtainable from official sources.

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1.8 - 30 MHz



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- ☆ Remote Band Switching
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A1000X	160-10 Meter	15-25W	1.2 KW	1395.00

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MODEL	FREQ.	LENGTH
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CX-220	220-225 MHz	35"
OG-146	144-148 MHz	48"
OG-220	220-225 MHz	32"

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CX-144

OG146

The standard time system is based on the theoretical division of the surface of the globe into 24 zones, each of 15° of longitude. The initial zone is the one which has its central meridian the Greenwich Meridian and with the meridians $7^\circ 30'$ E and $7^\circ 30'$ W as its eastern and western limits. Time in this zone is called Greenwich Mean Time, or GMT. Places to the east of Greenwich are ahead of GMT, while places to the west are behind GMT. Not all countries follow the International Time Zone System, but will use the time of some principal city as a standard or will have no standard time at all.

Reference — "Standard Time Chart of the World" No. 5192, published by the U.S. Navy Hydrographic Office, Washington D.C.

The theoretical system described is applied, in a strict sense, only in oceanic regions. On land or on groups of islands the system is applied with certain local deviations made necessary by frontiers or to permit an entire island group to have the same time zone. The time used in each country, whether it is the time of the corresponding zone or a modified time, is fixed by law and is called legal time, or more generally, standard time.

Another deviation from this theoretical system is that certain countries, for economic reasons, modify their legal time for part of the year, especially in summer, by advancing it an hour or another fraction of time. Where such deviations are maintained on a year-round basis, the time kept is considered to be standard time.

Standard or Local Time			Standard or Local Time			Standard or Local Time		
Country	Hours fast or slow of GMT	Time at 12:00 hrs. GMT	Country	Hours fast or slow of GMT	Time at 12:00 hrs. GMT	Country	Hours fast or slow of GMT	Time at 12:00 hrs. GMT
Afghanistan	+ 4%	16 30	Faeroe Is.	0	12 00	Pakistan	+ 5	17 00
Aland Is.	+ 2	14 00	Falkland Is.	- 4	08 00	Palmyra Is.	- 10	02 00
Alaska: Juneau, Ketchikan, Sitka	- 8	04 00	Fanning Is.	- 10	02 00	Panama	- 5	07 00
Yakutat	- 9	03 00	Fernando de Noronha Is.	- 2	10 00	Papua New Guinea	+ 10	22 00
Central Part, Kodiak Is.	- 10	02 00	Fiji Is.	+ 12	24 00	Paraguay	- 4	08 00
West Coast, Aleutian Is.	- 11	01 00	Finland	+ 2	14 00	Peru	- 5	07 00
Albania	+ 1	13 00	France	+ 1	13 00	Philippines	+ 8	20 00
Algeria	0	12 00	French Guiana	- 3	09 00	Phoenix Is.(Kiribati)	- 11	01 00
Amsterdam Is.	+ 1	17 00	French Polynesia	- 10	02 00	Pitcairn Is.(Kiribati)	- 10	02 00
Andaman Is.	+ 5%	17 30				Poland	+ 0	13 00
Andorra	+ 1	13 00	Gabon	+ 1	13 00	Portugal	+ 0	12 00
Angola	+ 1	13 00	Galapagos Is.	- 5	07 00	Prince Edward & Marion Is.	+ 3	15 00
Anguilla	- 4	08 00	Gambia, The	0	12 00	Providence Is.	- 5	07 00
Antigua	- 4	08 00	Germany (East and West)	+ 1	13 00	Puerto Rico	- 4	08 00
Argentina	- 3	09 00	Ghana	0	12 00			
Aruba Is.	- 4	08 00	Gibraltar	+ 1	13 00			
Ascension Is.	0	12 00	Gilbert Is.(Kiribati)	+ 12	24 00			
Australia: Western Australia	+ 8	20 00	Gough Is.	0	12 00			
Northern Territory, South Australia	+ 9%	21 30	Greece	+ 2	14 00			
New South Wales, Queensland, and Victoria	+ 10	22 00	Greenland: Eastern	- 2	10 00			
Austria	+ 1	13 00	Western	- 3	09 00			
Azores Is.	- 1	11 00	Thule Area	- 08	08 00			
			Grenada	- 4	08 00			
Bahamas	- 5	07 00	Guadeloupe	- 4	08 00	Sabah (Malaysia)	+ 8	20 00
Bahrain	+ 3	15 00	Guam	+ 10	22 00	St. Helena Is.	0	12 00
Baker Is. (U.S.)	- 11	01 00	Guantanamo Bay	- 5	07 00	St. Kitts	- 4	08 00
Balearic Is.	+ 1	13 00	Guatemala	- 6	06 00	St. Lucia	- 4	08 00
Bangladesh	+ 6	18 00	Guinea	- 1	12 00	St. Paul Is.	+ 4	17 00
Barbados	- 4	08 00	Guinea Bissau	0	12 00	St. Pierre & Miquelon Is.	- 3	09 00
Belgium	+ 1	13 00	Guyana	- 3	09 00	St. Thomas & Principe Is.	0	12 00
Belize	- 6	08 00				St. Vincent	- 4	08 00
Benin	+ 1	13 00	Haiti	- 5	07 00	Saipan	+ 10	22 00
Bermuda Is.	- 4	08 00	Heard Is.	+ 10	02 00	Samoa Is.	- 11	01 00
Bhutan	+ 6	18 00	Honduras	- 6	06 00	San Andres Is.	- 1	13 00
Bolivia	- 4	08 00	Hong Kong	+ 8	20 00	San Marino	+ 1	13 00
Bonaire	- 4	08 00	Howland Is.(U.S.)	- 11	01 00	Sarawak (Malaysia)	+ 8	20 00
Borneo (Indonesia)	+ 8	20 00	Hungary	+ 1	13 00	Sardinia	+ 1	13 00
Botswana	- 2	14 00				Saudi Arabia	+ 3	15 00
Brazil: East of 52° 30' W.(approx.)	- 3	09 00	Iceland	0	12 00	Senegal	+ 0	16 00
Amazonas, Matto Grosso	- 4	08 00	India	+ 5%	17 30	Seychelles Is.	+ 4	16 00
Acre Territory	- 5	07 00	Iran	+ 3%	15 30	Sicily	+ 1	13 00
British Isles	0	12 00	Iraq	+ 3	15 00	Sierra Leone	0	12 00
Brunei	+ 8	20 00	Ireland	0	12 00	Singapore	+ 7%	19 30
Bulgaria	+ 2	14 00	Israel	+ 2	14 00	Sint Eustatius	- 4	08 00
Burma	+ 6%	18 30	Italy	+ 1	13 00	Sint Maarten	- 4	08 00
Burundi	+ 2	14 00	Ivory Coast	0	12 00	Solomon Is.	+ 11	23 00
						Somali Republic	+ 3	15 00
Caicos Is.	- 5	07 00	Jamaica	- 5	07 00	South Africa	+ 2	14 00
Cambodia	- 7	19 00	Jan Mayen Is.	- 1	11 00	South Georgia Is.,South Sandwich Is.	- 2	10 00
Cameroun	+ 1	13 00	Japan	- 9	21 00	South Shetland Is., South Orkney Is. *		
Canada: Belle Isle, Labrador, and Newfoundland	- 3%	08 30	Jarvis Is.	- 10	02 00	South Yemen	+ 3	15 00
Anticosti Is., Cape Breton Is., Magdalen Is., New Brunswick, Nova Scotia, Prince Edward Is., Quebec (E of 68° W), and Sable Is.	- 4	08 00	Java (Indonesia)	+ 7	19 00	Spain	+ 1	13 00
Melville Peninsula (east), Ontario (E of 90° W), Quebec (W of 68°), and Southampton Is.	- 5	07 00	Johnston Is.	- 10	02 00	Sri Lanka	+ 5%	17 30
Manitoba, Ontario (W of 90° W), Melville Peninsula (west), and N.W. Territories (east)	- 6	06 00	Jordan	+ 2	14 00	Sudan	+ 2	14 00
Alberta, Saskatchewan, and N.W. Territories (middle)	- 7	05 00	Juan Fernandez Is.(Chile)	- 4	08 00	Sumatra (Indonesia)	+ 7	19 00
British Columbia and N.W. Territories (west)	- 8	04 00				Surinam	- 3%	08 30
Yukon	- 9	03 00	Kanton Is.(Kiribati)	- 11	01 00	Svalbard Is.	+ 1	13 00
Arctic Is.	0	12 00	Kenya	+ 3	15 00	Swan Is.	- 6	06 00
Canary Is.	- 1	11 00	Kerguelen Is.	+ 5	17 00	Swaziland	+ 2	14 00
Cape Verde	- 1	11 00	Kermadec Is.	+ 12	24 00	Sweden	+ 1	13 00
Caroline Is.: Palau	+ 9	21 00	Korea	+ 9	21 00	Switzerland	+ 1	13 00
Truk	+ 10	22 00	Kuwait	+ 3	15 00	Syria	+ 2	14 00
Fonape	+ 11	23 00	Laccadive Is.	+ 5%	17 30			
Cayman Is.	- 5	07 00	Laos	+ 7	19 00	Taiwan	+ 8	20 00
Celebes Is.(Indonesia)	+ 8	20 00	Lebanon	+ 2	14 00	Tanzania	+ 3	15 00
Central African Republic	+ 1	13 00	Liberia	0	12 00	Tasmania (Australia)	+ 10	22 00
Chad	+ 1	13 00	Libya	+ 2	14 00	Thailand	+ 7	19 00
Chagos Is.	+ 5	17 00	Liechtenstein	+ 1	13 00	Timor Is.(Indonesia)	+ 7	20 00
Chatham Is.	+ 12%	00 45	Line Is.(Kiribati)	- 10	02 00	Togo	0	12 00
Chile	- 4	08 00	Lord Howe Is.	+ 10%	22 30	Tonga	+ 13	01 00
China: Western part	+ 8	20 00	Luxembourg	+ 1	13 00	Transkei	+ 2	14 00
Mid-Western part	+ 7	19 00	Macao	+ 8	20 00	Trinidad Is.	- 2	10 00
Mid-Eastern part	+ 8	20 00	Macquarie Is.	+ 11	23 00	Trinidad & Tobago	- 4	08 00
Eastern part	+ 8%	20 30	Madagascar	+ 3	15 00	Tristan da Cunha Is.	- 4	12 00
Christmas Is.	+ 7	05 00	Madeira Is.	0	12 00	Tromelin Is.	+ 4	16 00
Clipperton Is.	- 7	09 00	Malawi	+ 2	14 00	Tunisia	+ 1	13 00
Cocos (Keeling) Is.	- 6	06 00	Malaysia	+ 7%	19 30	Turkey	+ 3	15 00
Columbia	+ 5	07 00	Maldives Is.	+ 5	17 00	Turks Is.	- 5	07 00
Comoro, State of	- 3	13 00	Mali	0	12 00	Tuvalu	+ 12	24 00
Congo	+ 1	13 00	Malta	+ 1	13 00			
Cook Is.	- 10	02 00	Martinique Is.	- 4	08 00	Uganda	+ 3	15 00
Corsica	+ 1	13 00	Mauritania Is.	0	12 00	United Arab Emirates	+ 4	16 00
Costa Rica	- 6	06 00	Mauritius Is.	+ 4	16 00	United States of America: Eastern Time	- 5	07 00
Crete	- 2	14 00	Mayotte	+ 3	15 00	Central Time	- 6	08 00
Crozet Is.	+ 3	15 00	Mexico: East of the States of Sonora, Sinaloa, and Nayarit, and Baja California (south of 28° N).	- 6	06 00	Mountain Time	- 7	08 00
Cuba	- 5	07 00	Baja California (north of 28° N).	- 8	04 00	Pacific Time	- 8	04 00
Curacao	- 4	08 00	Midway Is.	- 11	01 00	Uruguay	- 3	09 00
Cyprus	+ 2	14 00	Molucca Is. (Indonesia)	+ 9	21 00	U.S.S.R.: Estonia, Latvia, Lithuania, Karelo-Finnish, White Russia, Ukraine,		
Czechoslovakia	+ 1	13 00	Monaco	+ 1	13 00	Moldavia, and European Russia	+ 3	15 00
			Mongolia	+ 8	20 00	Georgia, Armenia, and Azerbaijan	+ 4	20 00
			Montserrat	- 4	08 00	Kazakh, Uzbek, Turkmen, Tadzhik	+ 5	17 00
			Mozambique	+ 2	14 00	Kirghiz, and West Siberian region	+ 6	18 00
						Buryat, East Siberian region	+ 8	20 00
Denmark	+ 1	13 00	Namibia	+ 2	14 00	approx. 112° 30' to 127° 30' W	+ 9	21 00
Djibouti	+ 3	15 00	Nauru	+ 11%	23 30	Kuril Is., Sakhalin Is.	+ 10	22 00
Dominica	- 4	08 00	Navassa Is.	- 5	07 00	approx. 142° 30' to 157° 30' W	+ 11	23 00
Dominican Republic	- 4	08 00	Nepal	+ 5%	17 30	approx. 157° 30' to 172° 30' W	+ 12	24 00
			Netherlands	+ 1	13 00	approx. 172° 30'W to coast	+ 13	01 00
			New Caledonia	+ 11	23 00			
			New Zealand	+ 12	24 00	Vanuatu	+ 11	23 00
			Nicaragua	6	06 00	Venezuela	- 4	08 00
			Nicobar Is.	+ 5%	17 30	Vietnam	+ 7	19 00
			Niger	+ 1	13 00	Virgin Is.	- 4	08 00
			Nigeria	+ 1	13 00	Volcano Is.	+ 10	22 00
			Niue	- 11	01 00	Voltaic Republic	0	12 00
			Norfolk Is.	+ 11%	23 30			
			Norway	+ 1	13 00	Wake Is.	+ 12	24 00
						Wallis & Futuna Is.	+ 12	24 00
Easter Is.	- 7	05 00				West Irian (Indonesia)	+ 9	21 00
Ecuador	- 5	07 00				West Indies	- 4	08 00
Egypt	+ 2	14 00						
El Salvador	- 6	06 00				Yemen	+ 3	15 00
Enderbury Is.(Kiribati)	- 11	01 00				Yugoslavia	+ 1	13 00
Equatorial Guinea	+ 1	13 00						
Ethiopia	+ 3	15 00				Zaire	+ 2	14 00
						Zambia	+ 2	14 00
						Zanzibar (Tanzania)	+ 3	15 00
						Zimbabwe	+ 2	14 00

*No definite standard time used.

*No definite standard time used

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THESE ARE THE POSTAL RATES IN EFFECT AT PRESS TIME OF THIS ISSUE.

	U.S. and Possessions Canada, Mexico	Central America, Colombia, Venezuela, Caribbean Is.	South America, Europe, Africa, Asia, Oceania
Surface Postcard (QSL)	\$0.13	\$0.19	\$0.19
Surface Letter (1 ounce)	\$0.20	\$0.30*	\$0.30*
Additional ounces up to 12 ozs.	\$0.17		
Air postcard (QSL)		\$0.28	\$0.28
Air letter (each ½ ounce)		\$0.35**	\$0.40***
Aerogramme		\$0.30	\$0.30

* Over 1 up to 2 oz., \$0.47; over 2 up to 3 oz., \$0.64

** Over 2 oz., \$0.30 each additional half ounce

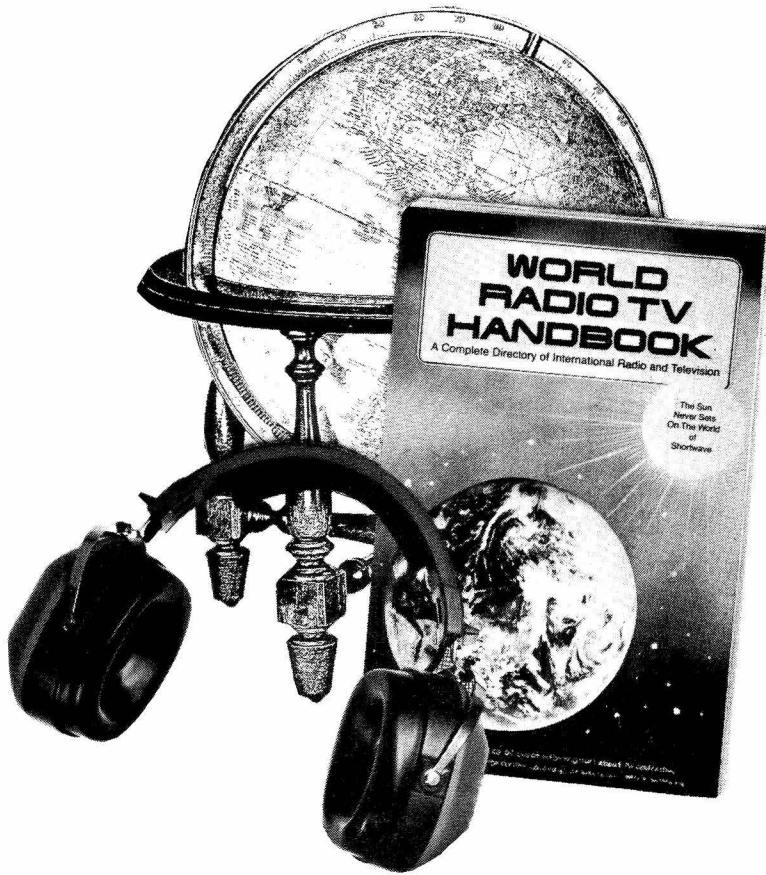
*** Over 2 oz., \$0.35 each additional half ounce.

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Afghanistan	5	Ecuador	3	Lebanon	3	St. Lucia	3
Aland Is. (Fin.)	2	Egypt	2	Lesotho	5	St. Pierre & Miquelon Is. (Fr.)	2
Albania	4	El Salvador	2	Liberia	5	St. Thomas & Principe	3
Algeria	2	Ethiopia	3	Libya	2	St. Vincent	3
Andorra	2			Liechtenstein	2	Samoa, Western	4
Angola	3	Faero Is. (Den.)	2	Luxembourg	2	Saudi Arabia	3
Anguilla	3	Falkland Is. (Br.)	3			Scotland (U.K.)	2
Antigua	2	Fiji Is.	4	Macao	3	Senegal	2
Argentina	3	Finland	2	Madeira Is. (Port)	2	Seychelles	3
Ascension Is.	3	France	2	Madagascar	3	Sierra Leone	3
Australia	4	French Guiana	2	Malawi	6	Singapore	5
Austria	2	French Polynesia	2	Malaysia, West	5	Solomon Is.	5
Azores Is. (Port.)	2			Mali	2	South Africa, Rep. of	5
		Gabon	2	Malta	2	South Yemen	5
Bahama Is.	2	Gambia, The	4	Martinique (Fr.)	2	Spain	2
Bahrain	5	Germany, West	2	Mauritania	2	Sri Lanka	5
Balearic Is. (Spain)	2	Germany, East	2	Mauritius Is.	3	Sudan	3
Bangladesh	2	Ghana	3	Mexico	2	Surinam	2
Barbados Is.	3	Gibraltar (Br.)	2	Montserrat	3	Swaziland	5
Belgium	2	Great Britain	2	Morocco	2	Sweden	2
Belize	2	Greece	2	Mozambique	3	Switzerland	2
Benin	2	Greenland (Den.)	2			Syria	3
Bermuda Is.	2	Grenada	4	Namibia	5		
Bolivia	2	Guadeloupe	2	Nauru	4	Taiwan	3
Botswana	5	Guatemala	2	Nepal	5	Tanzania	4
Brazil	2	Guinea Bissau	2	Netherlands	2	Thailand	3
Brunei	4	Guinea, Equatorial	2	Netherlands Antilles	2	Togo	2
Bulgaria	3	Guinea	2	New Caledonia	2	Tonga Is.	3
Burma	4	Guyana	4	New Zealand	3	Trinidad & Tobago Is.	2
Burundi	3			Nicaragua	4	Tristan da Cunha Is.	3
		Haiti	5	Niger	2	Tunisia	2
Cambodia	3	Honduras	3	Nigeria	3	Turkey	2
Cameroon	2	Hong Kong	5	Northern Ireland	2	Turks & Caicos Is.	2
Canada	2	Hungary	2	Norway	2	Tuvalu	5
Canary Is. (Spain)	2			Oman	4		
Cape Verde	3	Iceland	2			Uganda	4
Cayman Is.	3	India	3	Pakistan	2	United Arab Emirates	4
Central African Republic	2	Indonesia	3	Panama	2	Uruguay	2
Ceuta & Melilla (Spain)	2	Iran	4	Papua New Guinea	3		
Chad	2	Iraq	3	Paraguay	3	Vanuatu	2
China	3	Ireland (Eire)	3	Peru	3	Vatican City	2
Colombia	3	Israel	3	Philippines	3	Venezuela	2
Comoro, State of	3	Italy	2	Poland	2	Vietnam	2
Congo	2	Ivory Coast	2	Portugal	2	Virgin Is. (Br.)	2
Costa Rica	2					Voltaic Republic	2
Crete (Greece)	2	Japan	2				
Cuba	4	Jordan	3	Qatar	4	Wales (U.K.)	2
Cyprus	4					West Irian (Indonesia)	3
Czechoslovakia	2	Kenya	4	Reunion Is. (Fr.)	2	Yugoslavia	3
		Kiribati	5	Romania	3		
Denmark	2	Korea	3	Rwanda	2		
Djibouti	2	Kuwait	4				
Dominica	2			St. Helena Is. (Br.)	3		
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ATLANTA, GA.	43	325	153	242	160	26	48	45	158	51	114	141	38	198	170	30	280	102	160	170	45	58	329	227	156	32	34	47	42	170	139	51	179	168	336	346	33	254	324
BIRMINGHAM, ALA.	42	325	151	241	155	23	47	44	156	50	113	137	37	191	158	29	279	101	157	167	44	57	327	221	154	36	33	47	42	165	137	50	173	166	334	342	32	253	323
BISMARCK, N. D.	42	315	141	240	143	7	45	43	146	40	97	131	35	162	142	27	261	81	146	154	45	56	317	177	145	84	33	46	39	151	129	46	153	155	325	328	30	256	314
BOSTON, MASS.	51	321	167	253	186	36	56	53	169	60	117	172	45	217	210	36	284	105	177	187	53	68	346	235	168	331	40	56	50	191	153	59	205	181	349	7	39	270	335
BUFFALO, N. Y.	49	320	160	250	172	29	53	51	163	55	112	159	42	203	189	34	279	99	168	178	51	65	338	222	161	54	38	53	47	179	146	56	189	173	342	356	37	266	329
CHARLESTON, W. VA.	46	322	156	246	167	28	50	47	160	53	113	151	40	201	183	32	279	101	164	174	48	61	334	224	159	37	36	50	45	175	143	53	185	170	339	351	35	259	327
CHEYENNE, WYO.	38	322	138	236	135	3	41	40	143	37	100	122	32	151	127	24	263	84	141	148	41	52	312	166	142	69	30	42	36	143	126	42	144	152	322	321	27	250	312
CHICAGO, ILL.	45	320	152	245	158	21	49	47	156	49	108	144	39	186	165	31	274	95	158	167	48	60	328	207	154	66	36	50	44	167	138	51	173	166	335	343	34	260	323
CLEVELAND, OHIO	47	320	157	247	167	27	52	49	161	53	111	153	41	198	182	33	278	99	165	174	50	63	334	219	159	53	37	52	46	175	143	54	184	171	340	352	36	263	327
COLUMBIA, S. C.	44	324	156	243	166	29	49	46	161	53	115	148	39	206	186	31	281	103	164	175	46	59	333	232	159	24	35	48	44	175	142	52	187	171	339	352	34	255	327
DALLAS, TEXAS	39	326	142	237	138	12	43	41	148	44	110	122	34	161	123	26	274	97	146	154	42	53	317	189	147	48	31	43	38	149	130	45	150	157	326	326	29	249	317
DENVER, COLORADO	38	323	137	235	133	2	41	39	143	37	101	120	32	149	124	24	264	85	141	147	41	52	312	164	142	66	29	42	35	142	125	42	142	152	321	320	27	249	312
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EL PASO, TEXAS	36	329	135	233	125	1	39	37	142	37	108	111	30	136	106	22	270	94	137	142	38	49	308	150	140	52	27	40	34	135	124	41	131	149	319	313	25	245	312
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PHOENIX, ARIZONA	34	330	131	231	121	354	37	35	138	33	105	108	28	129	104	20	265	89	133	138	36	47	304	137	137	56	26	38	31	130	121	38	126	146	316	308	23	243	309
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ST. LOUIS, MO.	43	322	149	242	153	19	47	45	154	48	109	137	37	181	156	29	274	96	155	164	46	58	325	204	152	55	34	47	42	162	136	49	167	163	332	339	32	256	321
SALT LAKE CITY, UTAH	35	325	132	232	127	355	38	36	139	32	96	114	29	138	116	21	258	79	135	141	38	48	307	149	136	67	27	39	32	135	121	38	134	146	317	313	24	247	308
SAN FRANCISCO, CALIF.	30	333	125	226	115	343	32	31	132	24	95	104	24	121	101	16	252	74	126	130	33	42	298	126	131	62	22	33	26	123	115	32	119	139	310	301	19	240	303
SEATTLE, WASHINGTON	31	321	125	227	120	345	33	32	131	23	79	110	25	131	113	17	240	58	128	133	34	43	300	138	130	75	24	35	27	128	113	32	127	139	309	306	20	243	301
WASHINGTON, D. C.	47	322	161	248	175	32	52	49	164	56	115	160	41	210	198	33	282	103	170	180	49	63	339	231	163	20	37	52	47	182	147	55	194	174					

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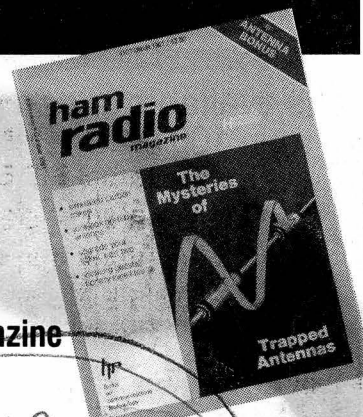
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1 — · — — 2 — · — — 3 — · — — 4 — · — — 5 — · — — 6 — · — — 7 — · — — 8 — · — — 9 — · — — 0 — · — —	1 — · — — 2 — · — — 3 — · — — 4 — · — — 5 — · — — 6 — · — — 7 — · — — 8 — · — — 9 — · — — 0 — · — —
Punctuation	Punctuation
(.) — · — — (,) — · — — (?) — · — — (:) — · — — (;) — · — — (-) — · — — (!) None at present (') — · — — (/) — · — — () — · — — (") — · — —	(.) — · — — (,) — · — — (?) — · — — (:) — · — — (;) — · — — (-) — · — — (!) — · — — (') — · — — (/) — · — — () — · — — (") — · — —

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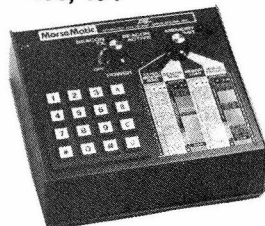
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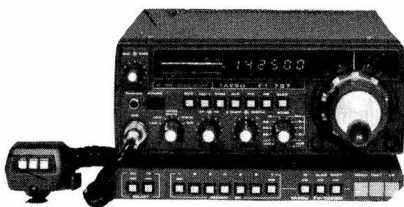
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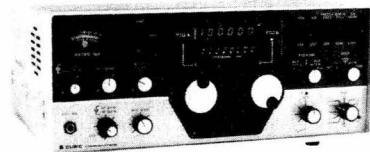
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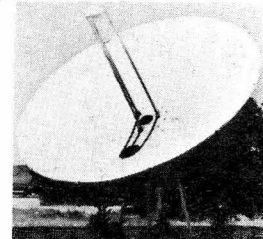
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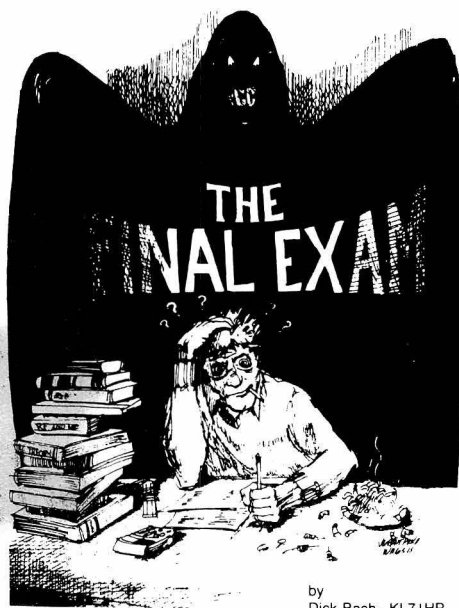
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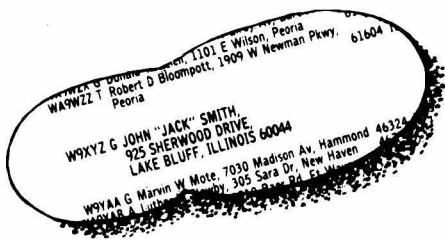
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TELEGRAPHERS' ABBREVIATIONS IN CURRENT USE

— denotes short space, as in American Morse o, $\overline{e}$, c, $\overline{t}$, &, $\overline{e}$ s.
 — denotes letters sent together, as in $\overline{ar}$, sent $\overline{ar}$.

aa	all after
ab	all before
abl	able
abt	about
ads,adr	address
adv	advise
af	Africa
aftrn	afternoon
agn	again
ahd	ahead
alng	along
am	amplitude modulation
ani	any
anr	another
ant	antenna
app	appreciate
ar	end of message
as, as m	wait, wait a minute
au	fractions follow
aw	auf wiedersehn (Ger), see you later
	- B -
b	be
b4	before
balun	balanced-to-unbalanced
bc, bcl	broadcast, broadcast listener
bcnu	be seeing you
bd	buenos dias (Sp), bad
bda	birthday
bde,bo,bth	both, as in "u5 bde", up both (Morse)
bfo	beat frequency oscillator
bjr	bon jour (Fr)
bk,bkg	back,break,black,book,breaking
bkr	breaker,circuit-breaker
bn	been,brown,between,buenas noches (Sp)
bq	answer to rq (request)
brg,bmg	bearing,heading
bsr	bon soir (Fr)
btr	better
buk	book
	- C -
c	yes
cd	card,could
cd,cud,cndt	could,couldn't
cfm,cfmg	confirm,confirming
ck	check
ckt,cct	circuit
cl,clg	call,calling,closed
clbk	callbook
clix	clicks
clr	clear
cnx,condx,cdx	conditions
cnt,cntl,cnty	count, county
cnvm	convention
coz,cos,cuz,beucz	because
cpi	copy
cq	general call to all stations
cs	call sign, call letters
cua,cuagn	see you again
cul	see you later
cum,cm,cmg	come,coming
cupla	a couple of
cw	continuous wave,manual keying
	- D -
da	day
dbl	double
dcn	direction
dct	direct
de	from
df	direction finder
diff	difference
dfr,dld	dealer,deliver,delivered
dn,d	down (in frequency)
dnt,dmi	do not, don't mention it
dpe	dope,information
dr	dear
ds	thanks,danke schon (Ger)
dsnt	does not
dsw	goodbye,do svidaniya (Russian)
dunno	don't know
dx	distance, or rare station
dxpdx	dx expedition
	- E -
em	old man
eh	?
el,els	antenna element(s)
em	them
eni,enibdi,eniwh	any, anybody, anyhow
ere	here
es,es	and (from Morse "&")
eta	estimated time of arrival
etd	estimated time of departure
eu	Europe
	- F -
fb,vfb	fine business,good (enthusiastic approval)
fd	field day,feed,food
fer	for
fiver	QSA-5
fld	field,filed
flr	floor
fm,frm	from,frequency modulation
fnd	friend, find, found
fni	funny
foxes	teleprinter test tapes
freq,fq	frequency
fwd	forward
fyi	for your information
	- G -
ga	good afternoon,go ahead
gb	good bye
gd	good day, good
ges,ges	guess
gg	going
gl	good luck

- G - (Cont.)

gld	glad
gn,gng	gone,green,going
gnd	ground
gotta	got to,have to,must
gp	ground plane,group (word)
grs	groups (as in msg code groups)
gud	good
gtgs	greetings
gv,gvg	give,giving
	- H -
hd,hrd	had,hard,heard
hdg	heading,antenna azimuth
hed	he would
hi	high, laughter, (sometimes: !)
hlo	hello
hiv	hasta la vista (Sp), see you later
hpe,hpg	hope,hoping
hpi	happy
hpn,wa hpn	happen,what happened
hq,hqtrs	headquarters
hr,hrg,hrs	here,hear,hour,hearing,here is, hours
hw,hwt,hwg	have,haven't, having
hwi	heavy
hw,hws	how? how is?
	- I -
i?	ready? here goes the tape
id	I would
ie	clear? (response: i-go, e-wait)
im	I'm,him,intermodulation
imt	?
info	information
irpt	I repeat
	- K -
k	go ahead,end of transmission
ka	beginning of transmission (formal)
klix	clicks
klvb	que (ke) le vaya bien (Sp)
	"That it goes well with you"
kn	go ahead, but only the station(s) called,
	I will answer no other calls, known
knw	know
	- L -
lkg	looking
ll	landline,telephone or telegraph
lng	long
lotsa	lots of
lp	long path (long way around earth)
lsn	listen
ltr	letter, later
lv,lvg	leave, leaving
lw	long wave, "lone wolf" (independent DXer)
	- M -
mag,rag	magazine
mci,mci bcp	merci, merci beaucoup (Fr), thanks
mgr	manager
mi	my
mil,mill,ma	milliampere, typewriter
min	minute, minimum
mk	mark (opposite of space)
ml,mlg	mail,mailing
mng	morning, meaning
mni	many
mnl	manual
mo	moment
msg	message
	- N -
n	no
nd	nothing doing
ng	no good
nil	nothing
nir	lazy "nil"
nm	nothing more, no more
nn	noon
no	know
nr	near, number
nvr	never
nw	now
	- O -
ob,eb	old boy
oc	old chap
ok,ek	all correct
ol	old lady
om,em	old man
op,opr	operator
opn,opg	operation, operating
ot	old timer
	- P -
pa	power amplifier
pbl,pbli	probab c, preamble, probably
pctcs	practices
pd	period,paid
pdv	pure dc, clean note
pkg	package, parking
plsr	please
ppgn	propagation
ppl	people
prtbl	portable
pse,pls,psd	please, pleased
psbl,psbli	possible, possibly
psn,psn	position
pt,ptd,ptg	point, part, pointed, pointing
pwr	power
	- Q -
qhm	tuning from high frequency to middle of band
qif	try sending with left foot awhile
qlm	tuning from low frequency to middle of band
qiz	operator too lazy
qmh	tuning from middle frequency to high frequency
qml	tuning from middle frequency to low frequency
qmt	try mailing your tlc
qmi	man-made electrical noise
qsl	mail card confirming qso
qsl	send card after receiving mine
qst	of interest to all amateurs

- R -

r	received
rac	rectified ac
rc	rag chew
rcd,rcd	received
rcr,rcr,rcvr,rx	receiver
rd	read (copy), red
rdi,rdy	ready
rdo	radio, radio station
re	concerning
reg,regs	regular, regulations
rito	right to
rm	room
rng	running
rockbound,rockbnd	crystal controlled, no vfo
rpt	report, repeat
rq	request
rst	readability 1-5, strength 1-9, tone 1-9
	- S -
sa,sez,sed,sa	say,says,said, South America
sae	self-addressed envelope
sase	self-addressed stamped envelope
sb,ssb	single sideband
sgd	signed
shd,shud,shudn't	should, shouldn't
sigs,sigs	signal(s), signature
simo	simultaneously
sked	schedule
sl	see you later
sn	soon, seen, signal/noise
sp	short path (the closer great-circle path)
sri	sorry
ss	sweepstakes
ssn	season, as in "ssns gtgs"
sth	station
su	I'll see you
sum	some
sumbdi	somebody
svc	service
svl	several
sw	switch, short wave
\$x	dollar sign "\$"
	- T -
tbl,trl	trouble
tlc	traffic, messages
thr	there, their
tmw	tomorrow
trg	tuning, thing
tnk	thank
trnsmsn	transmission
tr	transit, position, there, transmit/receive
T/R	transmit/receive
trix	tricks
ti,ts	that, that is
tu,tku,tnx,tk	thank you, thanks
tv,tlv	television, television interference
twx	telegram
tx,trans	transmitter
	- U -
u,up	you, upward in frequency
ufb	vfb, very fine business (Rus)
uk	United Kingdom
ul,ud	you will, you would
undld	undelivered
unhrd	unheard
ur,urs	your, yours
ut	universal time, GMT, "Zebra" time
	- V -
Va	signing off (same as sk)
vert	vertical
vfb	very fine business
vfo	variable-frequency oscillator
vjo	viejo (Sp), old man
vox	voice-operated switch
vy,vrl	very
vxo	variable crystal oscillator
	- W -
w,wt	watt
wa	word after
wat,watsa	what, what do you say?
wb	word before
wd	word, would
wee	who?
wed	we would
wh	white
wid	with
wilco	will comply, will do
wk,wkg	week, weak, work, working, QSOing
wri	worry
wx,wea	weather
	- X -
xlt	crystal
xtr,xmtr	transmitter
xq	fill, or repeat of unreceived copy
	- Y -
yda	yesterday
yl,xyl	young lady, married young lady
yr	year, your
	- Z -
z	Greenwich Mean Time, UT, "zebra"
zedder	New Zealand
zi	zone of the interior (continental USA)
zilch	nothing

NUMBER CODE:	1 - a	6 - 6
	2 - u	7 - b
	3 - v	8 - d
	4 - e	9 - n
	5 - e	0 - t

73	best wishes
88	love and kisses
99 (rare)	keep out

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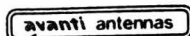
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KHØ,WHØ,KG6	Mariana Islands QSL Bureau, Box 7388, GD/CHRB, Saipan, Mariana Islands 96950, USA	EA4	URE, Box 879, Santa Cruz de Tenerife, Canary Islands, Spain	HV	Domenico Petty HV1CN, Radio Station, Vatican City
KM6	KM6BI, Box 43, FPO San Francisco, Cal. 96614, USA	EA8	Irish Radio Transmitters Society (IARU member), Box 462, Dublin 9, Ireland or Amateur Radio Society of Ireland, Box 938, Dublin 6, Ireland	H4	Solomon Islands Radio Society QSL Bureau, P.O. Box 418, Honiara, Solomon Islands
KX6	Kwajalein Amateur Radio Club KX6BU, Box 444, APO San Francisco 96555, USA Eniwetok Amateur Radio Club KX6BQ, Eniwetok, Marshall Islands 96737, USA	EL	Liberian Radio Amateur Association, Box 1477, Monrovia, Liberia	I-IZ	ARI, via Sciarlati 31, 20124 Milan, Italy
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PP-PY	LABRE/DF, Box 07-0004, 70000 Brasilia, DF, Brasil	VK9, VK0	Federal QSL Bureau, c/o N.R. Penfold VK6NE, 388 Huntriss Road, Woodlands, W.A. 6018, Australia	ZR,ZS	Cards for members only via SARL, Box 3037, Cape Town, CP, Rep. of South Africa
PZ	VRAS QSL Manager, Box 566 Paramaribo, Surinam	VO1, VO2	CRRL VO QSL Bureau, Box 6, St. John's, Newfoundland, Canada A1C 5H5	3A	c/o Pierre Anderhalt 3A2CN, 27 Boulevard de Belgique, Monaco
P2	QSL Bureau, Box 204, Port Moresby, Papua New Guinea	VP2A	c/o Gerald R. Price VP2AC, Box 641, St. John's, Antigua, Leeward Islands		or c/o Director Generale des Telecoms, 16 Boulevard de Suisse, Monaco
SJ-SM	SSA, Ostmarksg 43, S-12342 Farsta, Sweden	VP2V	QSL Bureau, c/o B.V.I. Amateur Radio Society, P. O. Box 653, Road Town, Tortola, British Virgin Is., Leeward Islands	3B6-3B9	c/o Paul Caboche 3B8AD, P. O. Box 467 Port Louis, Mauritius
SP	PZK QSL Bureau, skrytka pocztowa 320, 00-950 Warsaw, Poland	VP8	Cards for Falkland Islands & South Georgia should be sent directly to the address listed. Only Cards for Falkland Islands Stations not listed may be sent c/o Donald Betts VP8ON, Keppel Island, Falkland Islands	3D2	QSL Bureau, Box 184, Suva, Fiji Islands
SU	c/o Ibrahim Ibr Mohamed SU1IM, 7 Roda Str., Cairo, Egypt or Box 840, Cairo, Egypt	VP9	Cards for British Antarctic Stations (BAT) may be sent c/o G.P.O. Stanley, Falkland Islands	3D6	Radio Society of Swaziland, Box 21, Ezulwini, Swaziland
SV	RAAG (Radio Amateur Association of Greece), P.O. Box 564, Athens, Greece	VQ9	Radio Society of Bermuda, Box 275, Hamilton 5, Bermuda	4S	Radio Society of Sri Lanka, QSL Manager, Box 907, Colombo, Sri Lanka
S2	Bangladesh Amateur Radio League, c/o Engr. Saifud Dahar Shaid, 27 Dhanmandia R.A. Rd. No. 77, Dacca 5, Bangladesh	VQ9	c/o VQ9CI Diego Garcia Amateur Radio Club, FPO San Francisco, CA 96685, USA	4X,4Z	Israel Amateur Radio Club, P.O. Box 4099, Tel-Aviv, Israel
S7	c/o William H. Whitworth S79WHW, Box 491, Victoria Mahe, Seychelles	VS6	Cards for members only via HARTS, Box 541, Hong Kong	5A	QSL Bureau, Box 372, Tripoli, Libya
S8	Transkei Amateur Radio League, Box 821, Umtata, Transkei	VU	FARSI QSL Bureau Post Box 6538 Bombay 400 026, India	5B	Cyprus Amateur Radio Society, Box 1267, Limassol, Cyprus
TA-TC	Turkiye Radio Amatorleri Cemiyeti, P. O. Box 699, Karakoy-IST, Turkey or TRAC, P. O. Box 109, Istanbul, Turkey or c/o Salim Unuver TA1SU, P. O. Box 531, Aksaray-IST, Turkey	VY1	or, for members only, Amateur Radio Society of India, Post Box 534, New Delhi 1, India	5N	Nigerian Amateur Radio Society, Box 2873, Lagos, Nigeria
TF	Islenskir Radio Amatorar, Box 1058, Reykjavik, Iceland		Yukon Amateur Radio Association, Box 4597, Whitehorse, Yukon Territory, Canada Y1A 2R8	5R	QSL Bureau, Box 587, Tananarive, Madagascar
TG	CRAQ, Box 115, Guatemala City, Guatemala	XE	IARU-LMRE, Box 907, Mexico 1, DF, Mexico or ARARM QSL Bureau, Box 53, Mexico 1, DF, Mexico	5T	Mauritania QSL Bureau, Box 202, Nouakchott, Mauritania
TI	Radio Club of Costa Rica, Box 2412, San Jose, Costa Rica	XZ	or Radio Club Azteca, Box 174, Mexico 1, DF, Mexico	5V	c/o Albert Van Halteren 5V7AH, Box 33, Atakpame, Togo
TN	QSL Bureau, Box 2239, Brazzaville, Republic of the Congo	YB1-YD1	BARTS, c/o Zaw Yee XZ2SY, 9 Fifth Mile, Kaba Aye Pagoda Road, Yankin, Post Office, Rangoon, Burma	5W	Western Samoa Radio Club, QSL Bureau Secretary, Box 1069, Apia, Western Samoa
TU	Radio Club ARAI, 01 BP 1752 Abidjan 01, Ivory Coast	YB2-YD2	QSL Bureau, Box 314, Bandung, Indonesia	5Z	RSEA QSL Bureau, Box 45681, Nairobi, Kenya
U, R	Central Radio Club, Box 88, Moscow, U.S.S.R.	YB3-YD3	Central Java, Northern Area: QSL Bureau, Box 88, Semarang, Indonesia	60	c/o Box 397, Mogadishu, Somalia
VE, VO, VY	CRRL Central QSL Bureau of Canada, Box 51, St. John, NB, Canada E2L 3X1	YB4-YD4	Central Java, Southern Area: QSL Bureau, Box 73, Solo, Indonesia	6W	REF QSL Service, 2 Square Trudaine, 75009 Paris, France
VE1	c/o L. J. Fader VE1FQ, Box 663, Halifax, Nova Scotia, Canada B3J 2T3	YB6-YD6	QSL Bureau, Box 59, Surabaya, Indonesia	6Y	or ARAS, Box 971, Dakar, Senegal
VE2	c/o A. G. Daemen VE2IJ, 2960 Douglas Ave., Montreal, Quebec, Canada H3R 2E3	YB7-YD7	c/o Johannes Titaley YB4GA, GG Sumatra B-5 Palembang, Indonesia		QSL Manager, Jamaica Amateur Radio Association, Red Cross Building, 76 Arnold Rd., Kingston 5, Jamaica
VE3	The Ontario Trilliums ARC VE3TOT, P. O. Box 157, Downsview, Ontario, Canada M3M 3A3	YK	QSL Bureau, Box 464, Medan, Indonesia	7P	c/o Kaj Younger, Agricultural College, Box 829, Maseru, Lesotho
VE4	c/o W. A. Stunden VE4BJ, 578 Oxford Street, Winnipeg, Manitoba, Canada R3M 3J9	YN	QSL Bureau, Box 2761, Jakarta, Indonesia	7Q	c/o H. Y. Bumbwe 7Q7AE, P. O. Box 24, Blantyre, Malawi
VE5	c/o A. Lloyd Jones VE5JI, 2328 Grant Road, Regina, Saskatchewan, Canada S4S 5E3	YO	c/o Mike Murciano YNIMO/W4, Box 340902, Coral Gables, Florida 33134, USA	7X	ARA QSL Service, Box 2, Algiers, Algeria
VE6	c/o G. D. Holeton VE6AGV, 4003 First Street NW, Calgary, Alberta, Canada T2K 0X2	YS	or Alberto Matamoros YNIMAT, Apartado 1474, Managua, Nicaragua	8P	Radio Society of Barbados, Box 814E, Bridgetown, Barbados
VE7	ARRL QSL Bureau, c/o Burnaby A.R.C., P.O. Box 80555, South Burnaby, B.C., Canada V5H 3X9	YU	Central Radio Club, Box 05-50, R-76100 Bucharest 5, Romania	8R	c/o Ivan Gouveia 8R1AG, 89B Duke Street, Kingston, Georgetown, Guyana
VE8	Rolf Ziemann VE8RZ, 2888 Lanky Court, Yellowknife, NWT, Canada X1A 2G4	YU1	Cards for members only via CRAS, Box 517, San Salvador, El Salvador	9G	Cards for members only via Ghana Amateur Radio Society, Box 3773, Accra, Ghana
VK1	QSL Officer, G.P.O. Box 46, Canberra, A.C.T. 2600, Australia	YU2	SRJ, Box 48, 11001 Belgrade, Yugoslavia	9H	MARL, Box 575, Valletta, Malta
VK2	QSL Bureau, WIA Hunter Branch, P. O. Teralba, N.S.W. 2284, Australia	YU3	SRS, Box 64, 11001 Belgrade, Yugoslavia	9H4	c/o Eric Rogers 9H4G, Dar Ghali-Kwiet, Ghajin Melel St., Zebbug, Gozo, Malta
		YU4	SRH, Dalmatinska 12, 41000 Zagreb, Yugoslavia	9I, 9J	Radio Society of Zambia, Box 20332, Kitwe, Zambia
		YU5	ZRS, Box 180, 61001 Ljubljana, Yugoslavia	9K	c/o Nasir H. Khan 9K2AN, Box 736, Safat, Kuwait
		YV	SR BIH, Box 61, 71001 Sarajevo, Yugoslavia	9L	Sierra Leone ARS, Box 10, Freetown, Sierra Leone
		Y2-Y9	SRM, Box 14, 91001 Skopje, Yugoslavia	9M2, 9M6	via MARTS, Box 777, Kuala Lumpur, Malaysia
		ZB	IARU Bureau, Radio Club Venezolana, Box 2285, Caracas, DF, Venezuela	9Q	UZRA, Box 1459, Kinshasa, Zaire
			or ARV QSL Bureau, Box 3636, Caracas, Venezuela	9U	BARC QSL Bureau ON5TO, Botterbekeweg 8, B-8200 Brugge, WV, Belgium
			QSL Bureau, Box 30, DDR-1055 Berlin, German Democratic Republic	9V	SARTS, Box 2728, Singapore 1
				9X	RAR QSL Bureau, Box 663, Kigali, Rwanda
				9Y	Trinidad & Tobago Amateur Radio Society, Box 1167, Port-Of-Spain, Trinidad

THE YASME FOUNDATION
All QSL's for YASME DXpedition stations should be sent to:
The YASME Foundation
P.O. Box 2025, Castro Valley, Cal. 94546, USA

QSL INFORMATION FOR UNITED STATES STATIONS

The American Radio Relay League will handle outgoing QSL's for members only. Write to ARRL for details:
ARRL Membership Overseas QSL Service, 225 Main Street, Newington, Conn. 06111, USA

INTERNATIONAL "Q" SIGNALS

Abbreviation	Question	Answer or Advice	Abbreviation	Question	Answer or Advice
QRA	What is the name of your station?	The name of my stations is . . .	QSY	Shall I change to transmission on another frequency?	Change to transmission on another frequency [or on . . . kc/s (or Mc/s)].
QRB	How far approximately are you from my station?	The approximate distance between our stations is . . . nautical miles (or kilometres)	QSZ	Shall I send each word or group more than once?	Send each word or group twice (or . . . times).
QRD	Where are you bound and where are you from?	I am bound for . . . from . . .	QTA	Shall I cancel telegram number . . . as if it had not been sent?	Cancel telegram number . . . as if it had not been sent.
QRG	Will you tell me my exact frequency or that of . . .?	Your exact frequency (or that of . . . is . . . kc/s (or Mc/s).	QTB	Do you agree with my counting of words?	I do not agree with your counting of words; I will repeat the first letter or digit of each word or group.
QRH	Does my frequency vary?	Your frequency varies.	QTC	How many telegrams have you to send?	I have . . . telegrams for you (or for . . .).
QRI	How is the tone of my transmission?	The tone of your transmission is . . . (1. Good; 2. Variable; 3. Bad).	QTE	What is my TRUE bearing from you?	Your TRUE bearing from me is . . . degrees (at . . . hours)
QRK	What is the readability of my signals (or those of . . .)?	The readability of your signals (or those of . . .) is . . . (1. Unreadable; 2. Readable now and then; 3. Readable, but with difficulty; 4. Readable; 5. Perfectly readable).		What is my TRUE bearing from . . . (call sign)?	Your TRUE bearing from . . . (call sign) was . . . degrees (at . . . hours)
QRL	Are you busy?	I am busy (or I am busy with . . .). Please do not interfere.		What is the TRUE bearing of . . . (call sign) from . . . (call sign)?	The TRUE bearing of . . . (call sign) from . . . (call sign) was . . . degrees at . . . hours.
QRM	Are you being interfered with?	I am being interfered with.	QTH	What is your position in latitude and longitude (or according to any other indication)?	My position is . . . latitude . . . longitude (or according to any other indication).
QRN	Are you troubled by static?	I am troubled by static.	QTI	What is your TRUE track?	My TRUE track is . . . degrees.
QRO	Shall I increase power?	Increase power.	QTL	What is your TRUE heading?	My TRUE heading is . . . degrees.
QRP	Shall I decrease power?	Decrease power.	QTN	At what time did you depart from . . . (place)?	I departed from . . . (place) at . . . hours.
QRQ	Shall I send faster?	Send faster (. . . words per minute).	QTO	Have you left dock (or port)?	I have left dock (or port)
QRR	Are you ready for automatic operation?	I am ready for automatic operation. Send at . . . words per minute.		Are you airborne?	I am airborne.
QRS	Shall I send more slowly?	Send more slowly (. . . words per minute).	QTP	Are you going to enter dock (or port)?	I am going to enter dock (or port)
QRT	Shall I stop sending?	Stop sending.		Are you going to alight (or land)?	I am going to alight (or land).
QRU	Have you anything for me?	I have nothing for you.	QTR	What is the correct time?	The correct time is . . . hours.
QRV	Are you ready?	I am ready.	QTS	Will you send your call sign for . . . minute(s) now (or at . . . hours) [on . . . kc/s (or Mc/s)] so that your frequency may be measured?	I will send my call sign for . . . minute(s) now (or at . . . hours) [on . . . kc/s (or Mc/s)] so that my frequency may be measured.
QRW	Shall I inform . . . that you are calling him on . . . kc/s (or Mc/s).	Please inform . . . that I am calling him on . . . kc/s (or Mc/s).	QTV	What are the hours during which your station is open?	My station is open from . . . to . . . hours.
QRX	When will you call me again?	I will call you again at . . . hours [on . . . kc/s (or Mc/s)].	QTX	Shall I stand guard for you on the frequency of . . . kc/s (or Mc/s) (from . . . to . . . hours)?	Stand guard for me on the frequency of . . . kc/s (or Mc/s) (from . . . to . . . hours).
QRY	What is my turn?	Your turn is Number . . . (Relates to communication.)	QUA	Will you keep your station open for further communication with me until further notice (or until . . . hours)?	I will keep my station open for further communication with you until further notice (or until . . . hours).
QRZ	Who is calling me?	You are being called by . . . [on . . . kc/s (or Mc/s)].	QUB	Have you news of . . . (call sign)?	Here is news of . . . (call sign).
QSA	What is the strength of my signals (or those of . . .)?	The strength of your signals (or those of . . .) is . . . (1. Scarcely perceptible; 2. Weak; 3. Fairly good; 4. Good; 5. Very good).	QUC	Can you give me, in the following order, information concerning: visibility, height of clouds, direction and velocity of ground wind at . . . (place of observation)?	Here is the information requested . . .
QSB	Are my signals fading?	Your signals are fading.	QUD	What is the number (or other indication) of the last message you received from me [or from (call sign)]?	The number (or other indication) of the last message I received from you [or from . . . (call sign)] is . . .
QSD	Is my keying defective?	Your keying is defective.	QUE	Have you received the urgency signal sent by . . . (call sign of mobile station)?	I have received the urgency signal sent by . . . (call sign of mobile station) at . . . hours.
QSG	Shall I send . . . telegrams at a time?	Send . . . telegrams at a time.	QUF	Have you received the distress signal sent by . . . (call sign of mobile station)?	I have received the distress signal sent by . . . (call sign of mobile station) at . . . hours.
QSI	What is the charge to be collected per word to . . . including your internal telegraph charge?	The charge to be collected per word to . . . including my internal telegraph charge is . . . francs.	QUG	Will you be forced to alight (or land)?	I am forced to alight (or land immediately.
QSK	Can you hear me between your signals?	I can hear you between my signals.			I shall be forced to alight (or land) at . . . (position or place).
QSL	Can you acknowledge receipt?	I am acknowledging receipt.	QSW	Will you send on this frequency [or on . . . kc/s (or Mc/s)] (with emissions of class . . .)?	I am going to send on this frequency [or on . . . kc/s (or Mc/s)] (with emissions of class . . .).
QSM	Shall I repeat the last telegram which I sent you, or some previous telegram?	Repeat the last telegram which you sent me [or telegram(s) number(s) . . .].			
QSN	Did you hear me [or . . . (call sign)] on . . . kc/s (or Mc/s)?	I did hear you [or . . . (call sign) on . . . kc/s (or Mc/s)].			
QSO	Can you communicate with . . . direct or by relay?	I can communicate with . . . direct (or by relay through . . .).			
QSP	Will you relay to . . . free of charge?	I will relay to . . . free of charge.			
QSQ	Have you a doctor on board [or is . . . (name of person) on board]?	I have a doctor on board [or . . . (name of person) is on board].			
QSU	Shall I send or reply on this frequency [or on . . . kc/s (or Mc/s)] (with emissions of class . . .)?	Send or reply on this frequency [or on . . . kc/s (or Mc/s)] (with emissions of class . . .).			
QSV	Shall I send a series of V's on this frequency [or . . . kc/s (or Mc/s)]?	Send a series of V's on this frequency [or . . . kc/s (or Mc/s)].			
QSW	Will you send on this frequency [or on . . . kc/s (or Mc/s)] (with emissions of class . . .)?	I am going to send on this frequency [or on . . . kc/s (or Mc/s)] (with emissions of class . . .).			

DX OPERATING CODE

(For W/VE Amateurs)

Some amateur DXers have caused considerable confusion and QRM in their efforts to work DX stations. The points below, if observed by all W/VE amateurs, will help make DX more enjoyable for all.

1. Call DX only after he calls CQ, QRZ? or signs SK, or 'phone equivalents thereof. Make your calls short.
2. Do not call a DX station:
 - a. On the frequency of the station he is calling until you are sure the QSO is over (SK).
 - b. Because you hear someone else is calling him.
 - c. When he signs KN, AR or CL.
 - d. Exactly on his frequency.
 - e. After he calls a directional CQ, unless of course you are in the right direction or area.
3. Keep within frequency band limits. Some DX stations can get away with working outside, but you cannot.
4. Observe calling instructions given by DX stations.
Ex: "15U" means "call 15 kc. up from my frequency". "15D" means down, etc.
5. Give honest reports. Many DX stations depend on W/VE reports for adjustment of station and equipment.
6. Keep your signal clean. Key clicks, ripple, feedback or splatter give you a bad reputation and may get you a citation from FCC.
7. Listen and call the station you want. Calling CQ DX is not the best assurance that the rare DX will reply.
8. When there are several W or VE stations waiting, avoid asking DX to "listen for a friend". Also avoid engaging him in a rag chew against his wishes.

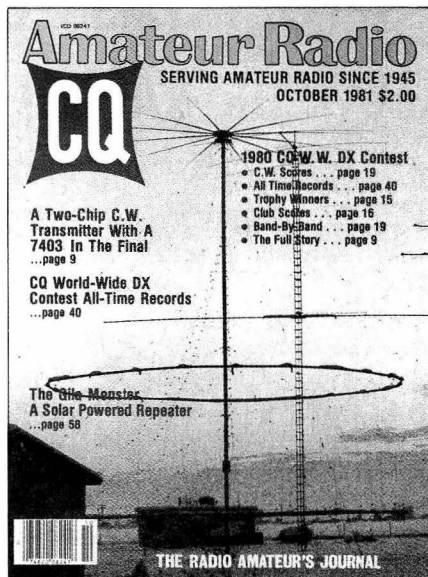
(For Overseas Amateurs)

To all overseas amateur stations:

In their eagerness to work you, many W and VE amateurs resort to practices which cause confusion and QRM. Most of this is good-intentioned but ill-advised; some of it is intentional and selfish. The key to the cessation of unethical DX operating practices is in your hands. We believe that your adoption of certain operating habits will increase your enjoyment of amateur radio and that of amateurs on this side who are eager to work you. We recommend your adoption of the following principles:

1. Do not answer calls on your own frequency.
2. Answer calls from W/VE stations only when their signals are of good quality.
3. Refuse to answer calls from other stations when you are already in contact with someone, and do not acknowledge calls from amateurs who indicate they wish to be "next".
4. Give everybody a break. When many W/VE amateurs are patiently and quietly waiting to work you, avoid complying with requests to "listen for a friend".
5. Tell listeners where to call you by indicating how many kilocycles up (U) or down(D) from your frequency you are listening.
Ex: c.w. - "CQ DX CQ DX CQ DX 15U DE AC4YN AC4YN AC4YN 15U K"; 'phone - "Answer 15 kilocycles up from my frequency".
6. Use the ARRL - recommended ending signals, especially KN, to indicate to impatient listeners the status of the QSO. (KN means "Go ahead (specific station), all others keep out").
7. Let it be known that you avoid working amateurs who are constant violators of the above principles.

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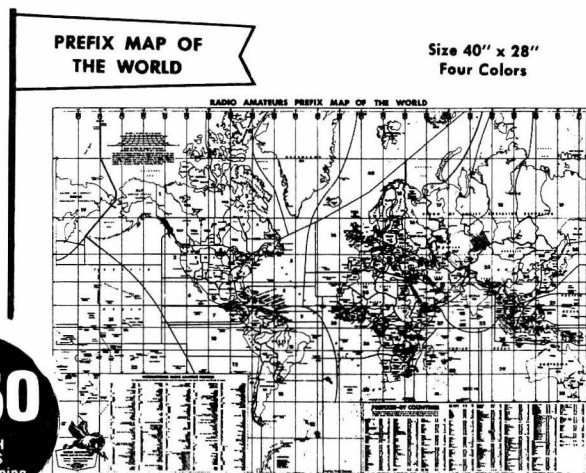
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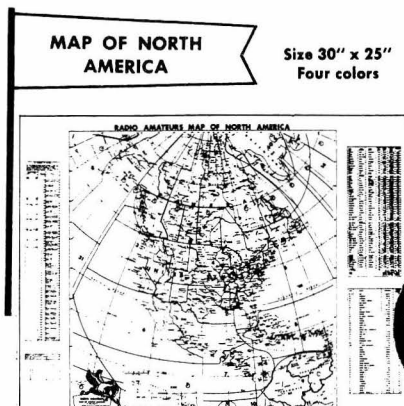


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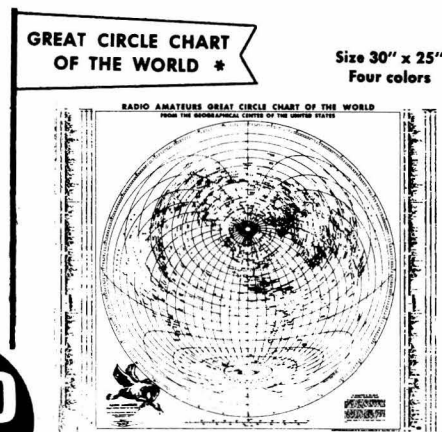
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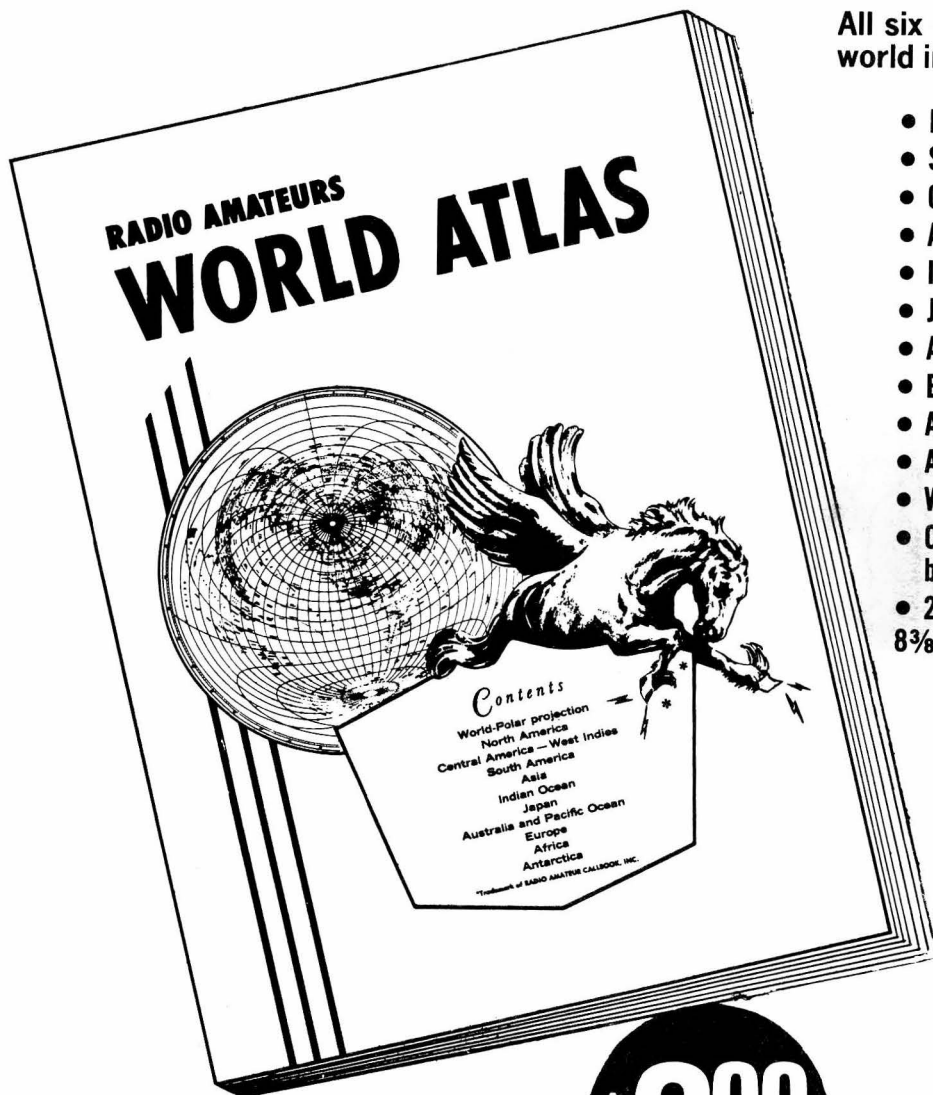
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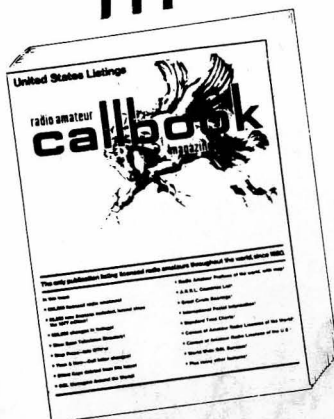
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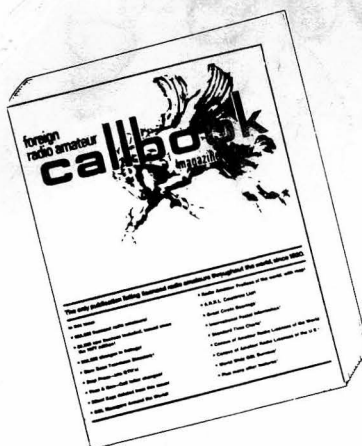
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